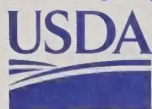


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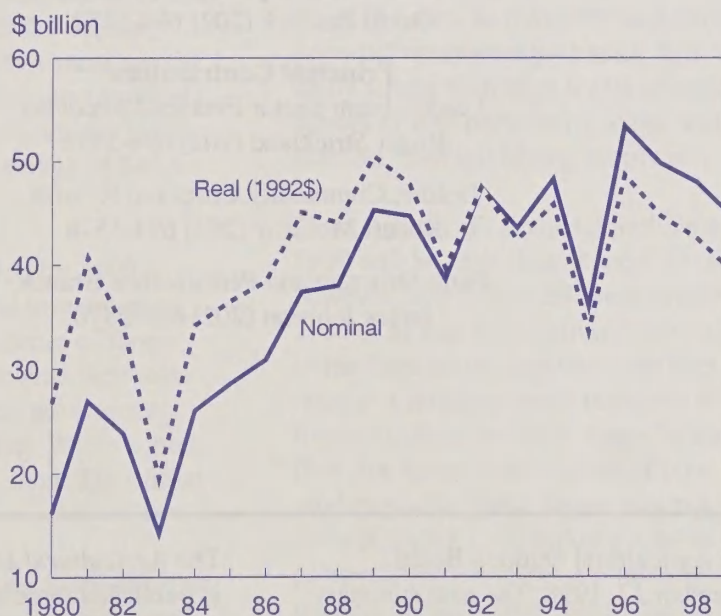
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Agricultural Income and Finance

Situation and Outlook Report

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Net Farm Income



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Highlights

With slow rises for many commodity prices, *net farm income* is forecast at \$44.6 billion in 1999, lower than the revised estimate of \$48.0 billion for 1998, but near the longer term decade average. *Net cash income* in 1999 is forecast at \$55.5 billion, an amount above the average annual earnings for the decade. For 1998, net cash income is now estimated at \$59.1 billion, the second highest on record.

In large part, the viability of the farm economy is derived from the financial soundness of the balance sheet. Assets will continue to increase in value, though at a slower rate than in recent years. Growth in farm debt is expected to level off or decline a modest amount, ending 6 years of increases. Farmers' equity in agricultural assets is projected to increase for the tenth straight year, to more than \$900 billion at yearend 1999. Thus, the agricultural sector will remain financially strong in 1999.

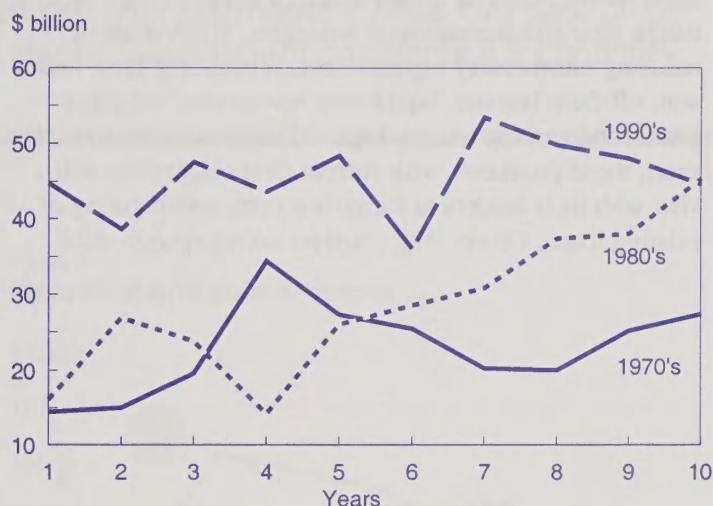
Net farm income is benefiting in 1998 and 1999 from the approximately \$5.6 billion in additional government support already received or forthcoming as part of the 1999 Appropriations Act. These additional payments, coupled with stable to declining production expenses and improved receipts for some commodities (notably livestock, cotton, fruit, and nursery and greenhouse products), will reduce the adverse impact of low grain prices on 1999 net farm income.

Placing net farm income projections for 1998 and 1999 into a longer term perspective shows that the \$48.0 billion expected in 1998 will be the third or fourth highest on record, trailing only the 1996 and 1997 incomes by any significant amount. Also, the \$44.6 billion forecast for 1999 will be only slightly below the decade's average of \$45.5 billion (figure 1).

The forecast for farm debt, at \$169.1 billion for 1999, reflects the likelihood of fewer new capital investments financed by debt and a relatively low incidence of farms borrowing their way out of cash-flow problems. Adequate levels of working capital and the additional government support are helping to hold down borrowing. While a modest decline from 1998, farm debt remains about \$24 billion below its 1984 peak.

Farm real estate, which represents the largest component of farm assets, is expected to increase in value in 1999, partly due to favorable returns to assets and relatively low inflation and borrowing costs. Although the increase will be relatively small compared with previous years, the higher value of farm real estate should reflect the counterbalancing of lower prices in areas where agricultural uses dominate

Figure 1
Patterns of net farm income over the last three decades



Source: Economic Research Service, USDA.

transactions and those areas where land values are increasing due to urban pressure and other factors.

Together, lower net income, lower debt, and lower interest rates will lead farmers to use more of their *debt repayment capacity* in 1999 than in 1998. Debt repayment capacity use in 1999 is now forecast at 57 percent. Though higher than the decade average of 52 percent, it remains well below levels of the early to mid-1980's. Although concerned about potential repayment problems, agricultural lenders are financially strong with high levels of capital, relatively low incidences of non-performing loans, and adequate funds to meet demand from qualifying borrowers.

Most, but not all, financial problems faced by producers in 1999 will be cash-flow related. These cash-flow difficulties, however, will reflect different conditions than in the early 1980's. At that time, falling asset values and excessive debt in the farm sector together with high inflation and interest rates in a fragile general economy triggered a widespread financial crisis. In 1998, many farms struggled with cash flow due to the combination of poor weather and low commodity prices. These farms may not get much relief in the form of higher commodity prices in 1999. Overall, prospects for the sector are fairly good, but there will be pockets of farm stress due to the varying impacts of low commodity prices and the inevitable occurrences of unfavorable weather on farm businesses.

Producers concentrating on grain and soybeans will likely see net income reductions of 20 percent or more in 1999. Regionally, net income reductions from 1998 will be largest

in the Northern Plains, Corn Belt, and Lake States. Since the early 1990's, producers who specialize in grain and soybeans have experienced the most difficult financial problems. They tend to be relatively small farms (with gross sales between \$100,000 and \$250,000) that have much tighter cost-revenue margins than their larger counterparts and much less reliance on off-farm income than do smaller sized farms. Many of these farmers will begin 1999 by evaluating their risk management strategies, eliminating or reducing unnecessary expenditures, subsidizing farm losses with off-farm income, liquidating inventories and other assets, and tapping into savings. When these measures fall short, those producers with current debt obligations will visit with their lenders to formulate some restructuring of existing loans. Others may consider taking on new debt.

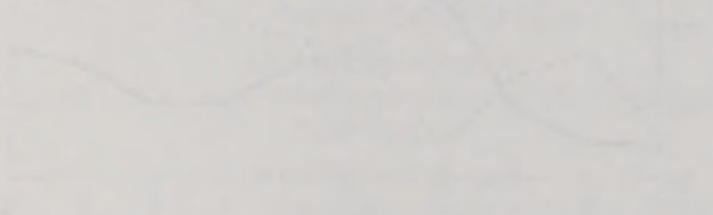


Figure 1. Farm Income and Expenses, 1990-1998. Source: USDA, Economic Research Service, based on data from the National Agricultural Statistics Service, Farm Income and Expenses, 1990-1998.

The economic outlook for 1999 is generally optimistic. Beef cattle farms and ranches should see increased earnings based on higher prices and prospects for lower expenses. Hog producers that have endured the current low prices and significant industry restructuring should see some income recovery. The economic outlook is also favorable for other commodity subsectors such as vegetables, fruits, and cotton. In recent years, prosperity in the nonfarm economy has been an important factor in maintaining average farm household incomes. There will be no exception to this trend in 1999. With expected lower income from farming, average farm household income should increase with a significant contribution from off-farm earnings.

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On the other hand, many farms will enter 1999 with an optimistic outlook. Beef cattle farms and ranches should see increased earnings based on higher prices and prospects for lower expenses. Hog producers that have endured the current low prices and significant industry restructuring should see some income recovery. The economic outlook is also favorable for other commodity subsectors such as vegetables, fruits, and cotton. In recent years, prosperity in the nonfarm economy has been an important factor in maintaining average farm household incomes. There will be no exception to this trend in 1999. With expected lower income from farming, average farm household income should increase with a significant contribution from off-farm earnings.

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Agricultural Relief Package and Lower Expenses Will Support Farm Income in 1999

Net farm income for 1999 is forecast to decline \$3.4 billion from 1998, when income received a boost from a fourth-quarter infusion of additional government payments. Prices for major crops will likely remain low, but expenses should remain stable. Government payments will continue to provide income support.

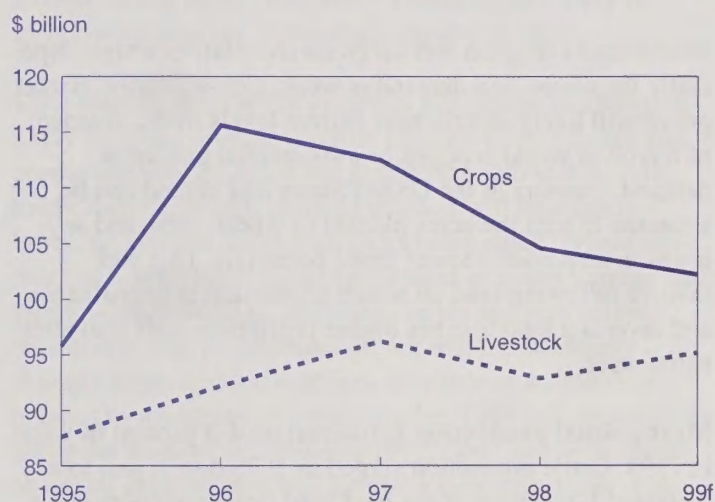
The value of crop and livestock production is forecast to be \$197.4 billion in 1999, virtually unchanged from 1998. Prices for many commodities fell to new lows in 1998 and there is little reason to expect significant changes in 1999. Commodity Credit Corporation loan rates are lending support to revenues realized from major crops (see *Loan Deficiency Payment* box for details). By the end of 1998, interest rates and fuel prices were at the lowest levels seen in recent years and will help farmers hold down production costs in 1999. Low fuel prices should translate into stable to lower fertilizer prices. Farmers are likely to seek lower rental rates from landlords as rental arrangements are finalized in the first quarter.

Production of many agricultural commodities is expected to remain high, barring adverse weather in major producing States. Consequently, crop receipts will continue to be pressured by low market prices. Some of the loss in revenue is expected to be offset by lower expenses. Lower prices (including interest rates) paid by farmers will be principal contributors to the expected decline in expenses. In addition, farmers will change financial strategies and production measures to achieve additional cost savings.

The value of commodity production in 1999 is expected to exceed the \$186.6-billion average for 1990-98 by almost \$11 billion. The value of crop production is forecast to exceed the 1990-98 average by 6.4 percent while the value of livestock production is forecast to average 5.2 percent higher. The value of production in 1998 and in 1999 is exceeded only by 1996 and 1997, when it was about \$10 billion higher, due almost entirely to crops. In those 2 years, farmers benefited from an unusually favorable combination of large harvests, high prices, and strong demand for exports (figure 2).

Government payments will be higher in 1999 than they would have been because of the additional payments authorized under the omnibus appropriations bill enacted in October 1998. This legislation included an additional \$5.6 billion or more of disaster and other payments to farmers for fiscal 1999. However, government payments in calendar

Figure 2
Final crop and animal output



f=forecast.

Source: Economic Research Service, USDA.

1999 are expected to decline from 1998. Based on current indications, farmers are expected to receive about 60 percent of the \$5.6 billion in 1998, with the smaller residual being paid in 1999. Under the 1996 Farm Act, production flexibility payments are to decline in fiscal 1999. Plus, in an exception to the usual payment schedule, farmers were granted the opportunity to take 100 percent of fiscal 1999 production flexibility payments in calendar 1998. To the extent that farmers took advantage of this provision, the effect is to add payments to 1998 and lower 1999 payments by an equal amount, thereby doubling the year-over-year dollar change.

Value of Commodity Production in 1999

Grain and soybean producers will continue to be among those most adversely affected by lower prices for 1998/99 crops, but the effects will vary by geographic region and individual situations, depending on farmers' opportunities to diversify their mix of commodities produced. In particular, wheat farmers in the Northern Plains will likely continue to be among those most adversely affected by low prices. Wheat prices have declined for 3 years and the only alterna-

tive crops available to producers in the Northern Plains tend to be other grains and oilseeds, which have experienced comparable price declines. Producers will have to lower their costs of production wherever possible, through negotiating lower rental rates, reducing interest payments, postponing capital investments, or changing production practices.

The size of the crop harvests in the United States and other producing countries will determine if and to what extent market prices improve in 1999. U.S. farmers have produced bumper grain and oilseed harvests for 3 consecutive years, which historically is beyond the norm. Weather conditions have generally been favorable, and in particular, the major grain and oilseed producing regions have not had any significant yield reduction due to drought. Other areas producing grains and oilseeds have also benefited from good weather, including South America, Europe, and China.

World stocks of grain and oil crops are relatively high, especially for wheat, and demand is weak. Consequently, market prices will likely remain near current levels in the absence of a drop in world supplies or a substantial pickup in demand. Farmers in the United States and abroad can be expected to trim the acres planted to wheat, corn, and soybeans in response to lower profit potentials. This will involve fallowing land on which production is unprofitable and diverting land that has higher profit potentials into alternative uses.

Meat-animal production is forecast up 4-5 percent in value in 1999. Cattle production surged in 1998 due in part to a sustained liquidation of the beef herd (involving both cows and heifers) that led to weak producer prices. In 1999, however, sharply lower supplies of feeder cattle and a comparable drop in beef production are expected. Lower supplies are expected to lead to stronger prices and a return to profitability for producers.

Hog prices in 1999 are expected to remain near 1998 levels, which were significantly lower than in 1997. Market prices have dropped because of large supplies of pork and competing meats that will likely keep hog prices from rising in 1999. Indications as of mid-December are that hog producers plan to continue increasing production over the next few months, despite sharply lower hog prices, which implies that returns to production may have dropped less sharply than the decline in average hog prices would suggest. A contributing factor may be that the significant structural changes that have been occurring in recent years have lowered the cost of production and may have lengthened producers' planning periods. For large operations and for producers under contracts to processors with substantial investments in existing plants, production plans may be based more on the outlook for prospects over several years rather than several months. Earnings of the producers under contract are determined by fee schedules established in the contract and are not based on cash market prices.

Broiler production is projected to rise in 1999 due to a substantial decline in feed costs and the higher prices that led to increasing profitability during 1998. However, with production increasing and exports declining a projected 3-4 percent, more product will be available for the domestic market and prices will likely be lower.

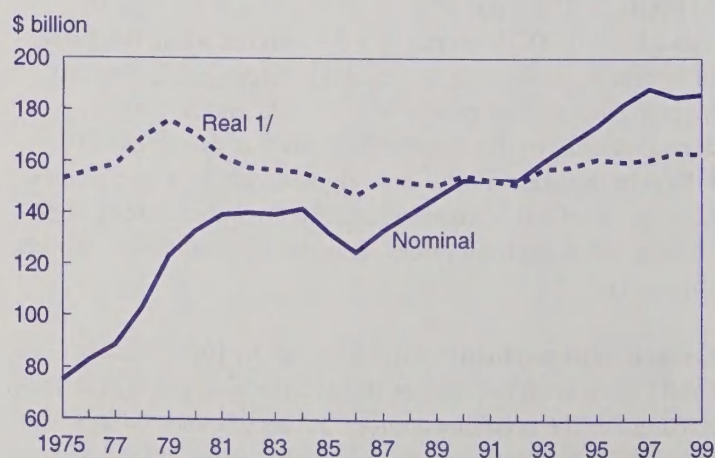
Milk prices rose throughout the latter half of 1998, counter to the general trend in prices of agricultural commodities. Higher milk prices are a consequence of reduced supplies resulting from adverse production conditions—most notably excessive rainfall in California. While California producers have expanded milk cow numbers, adverse weather has depressed milk per cow. Heat and drought took a toll in Texas where cow numbers were down, and milk per cow remained little changed, resulting in a decline in total production. With the production of dairy products relatively stable and with good sales, dairy product stocks have not been building. This translates into a fairly tight supply and demand situation. Record milk prices and relatively low feed prices are forecast to bring about a supply response, but year-over-year prices may not fall compared to 1998.

Production Expenses Likely To Change Little From 1998

In 1999, total expenditures are forecast to be \$186.1 billion, half a percent above our revised forecast of \$185.1 billion for 1998. Expenses in 1999 would be \$2.4 billion (1.3 percent) below 1997 but \$3.6 billion (2.0 percent) higher than in 1996. The decreases in 1998 and 1999 would be the first significant drop in total expenses since 6-percent declines in both 1985 and 1986 (figure 3).

The only significant increase in annual prices paid for production inputs is a jump of between 10 and 20 percent in

Figure 3
Total production expenditures
Nominal and deflated



1/ NASS Production items, Interest, Taxes, and Wage Rates (PITW) index deflator.

Source: Economic Research Service, USDA.

cattle and calf prices because of tighter supplies. Farm wage rates are projected to rise less than in the previous 3 years. Most other input prices are projected to increase by a small amount.

The one significant decrease that is most certain at this point is a fall in the average interest rate on outstanding debt. The final magnitude of the movement in interest rates and the effect that rate changes will have on debt structure are not known at this time. In response to low crop prices, other decreases may develop during the year. Some analysts are predicting a significant drop in cash rent rates. Operators may also moderate the amount of crop production inputs used. Developments in these areas will be monitored over the course of the coming year.

Livestock-related Expenses

The two principal livestock-related expenditures, feed and livestock and poultry purchases, are forecast to rise around \$400 million (1 percent) in 1999, leaving them \$2.2 billion (5.6 percent) lower than in 1997. Feed expenses are expected to be nearly the same as in 1998, but \$1.3 billion (5.3 percent) lower than in 1997. Feed prices are expected to drop slightly in 1999 while the volume of concentrates fed increases less than 1 percent. The principal factor influencing feed demand will be the fall in cattle on feed as the reduced supply of feeder cattle is held outside feedlots to higher weights and cow and heifer slaughter returns to normal levels. Hog production will again increase, however, as lower feed prices bring cash hog production costs below expected prices in 1999 even though hog prices are currently the lowest in more than 25 years (figure 4).

Livestock and poultry purchases are forecast up around \$300 million (2.4 percent) in 1999 after tumbling \$1.2 bil-

lion (8.6 percent) in 1998. Since cattle and calf purchases comprise around three-fourths of total purchases, factors affecting them are the principal movers of this expense. Cattle and calf prices are forecast to increase around 15 percent from 1998 as the supply of feeder cattle remains low. These factors will produce a significant drop in cattle on feed, however, that will offset much of the price increase in the value of purchases.

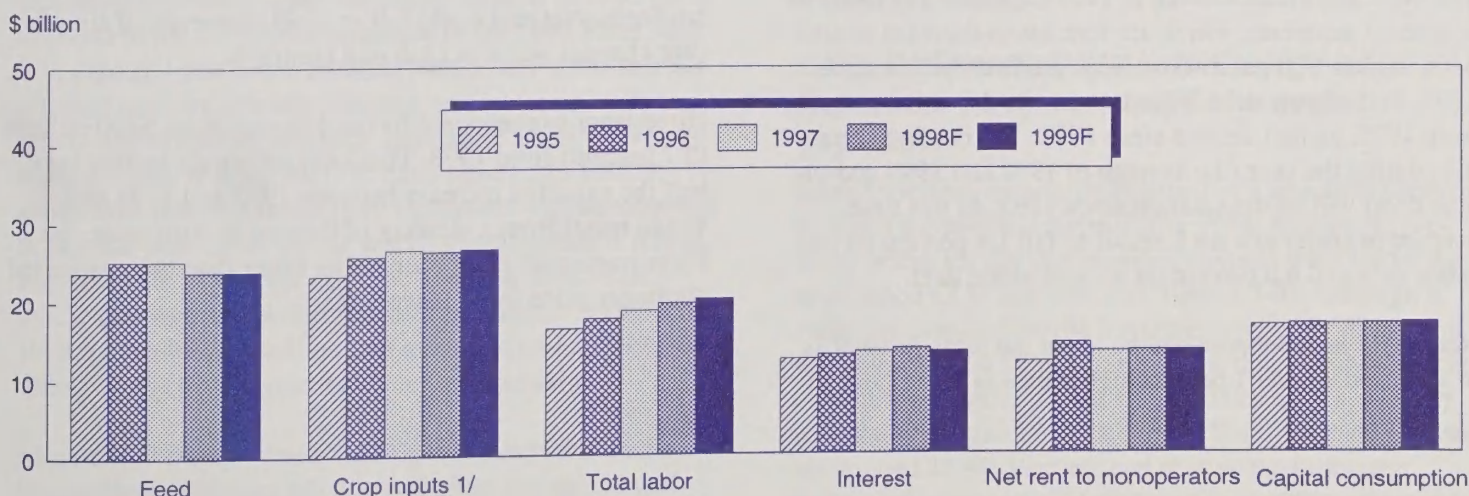
Crop Production Expenses

In 1999, expenditures for seeds, fertilizer, and agricultural chemicals are forecast to be \$26.6 billion, up a little more than 1 percent from 1998 and nearly the same as in 1997. All 3 years' totals are higher than at any previous time. These expenses rose 86 percent between 1987 and 1997. The leveling-off of these expenses in 1998 and 1999 marks a break in this steady rise. After falling significantly in 1998, fuel prices are forecast up slightly in 1999.

Total planted acreage for principal field crops in 1999 will likely be down around one-half percent. Corn acreage and production will be down but production will still be relatively high. Although soybean acreage will be slightly lower, production is forecast to increase again. Wheat production is forecast to be down because of lower acreage and yields. Cotton acreage will likely be up and production should rebound. If operators do not make significant changes in production practices in response to low crop prices, the quantities of inputs used in 1999 will probably be about the same as in 1997 and 1998. Seed and agricultural chemical expenditures will continue their rise. After dropping significantly in 1998, fertilizer prices are projected to rise around one-half percent in 1999. Fertilizer expenses will likely be slightly higher than in 1998 but will remain around \$400 million lower than in 1997.

Figure 4

Major farm business production expenditures



1/ Seeds, fertilizer and lime, and agricultural chemicals.
Source: Economic Research Service, USDA.

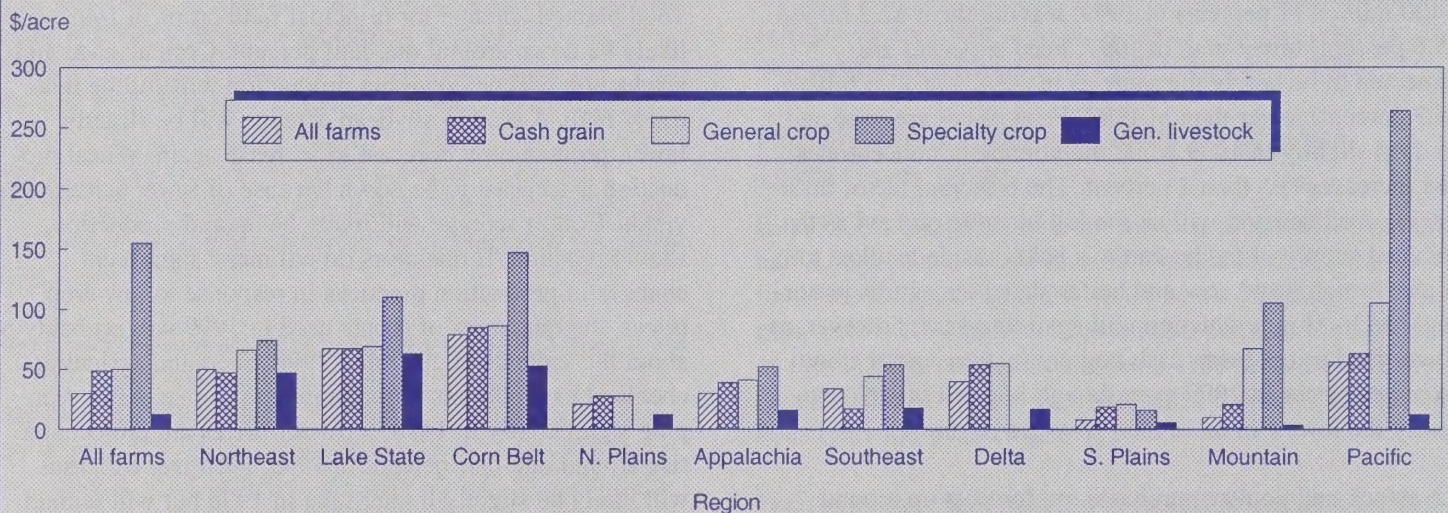
Agricultural Land Cash Rents

Cash rents are predominantly determined by the income-producing potential of the land. The key factors affecting that potential include market prices, government policies, land characteristics, and climatic conditions. For those reasons cash rents vary regionally (figure 5), by farm specialization, and by farm typology. Rental acres as a percent of operating acres, about 30 percent, are fairly constant across regions. Cash grain farms in the Northeast used the largest share of rental acres in 1997 at 50 percent. General crop farms in the Corn Belt used the least share at 4 percent.

- On average in 1997, farm operators paid \$30 per acre for cash rental land, specialty crop farms paid \$155 per acre, cash grain farms paid \$50 per acre, general crop farms paid \$49 per acre, and general livestock farms paid \$13 per acre.
- On a regional basis, average cash rents varied from a high of \$79 an acre in the Corn Belt to a low of \$8 in the Southern Plains. In the Corn Belt, 43 percent of the farms are cash grain farms that contribute 84 percent of the region's cash rents. In the Southern Plains, more than 80 percent of the farms are livestock types that contribute 64 percent of that region's cash rents.

Figure 5

Acreage cash rents paid by farm specialty and region



Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Interest, Rent, and Labor Expenses

The most significant change in 1999 expenses will likely be in interest payments, which are forecast to decrease around \$400 million (3.0 percent) in 1999, the first decline since 1993. End-of-year debt is projected to be down 0.7 percent from 1998, its first decline since 1992. The rise in average debt during the year (the average of 1998 and 1999 end-of-year debt) will be the smallest since 1993. At this time, average interest rates are forecast to fall 1.4 percent on real estate debt and 6.0 percent on nonreal estate debt.

Net rent to nonoperators will be about the same in 1999 as in 1998 and around 1 percent higher than in 1997. Dips in

share rent due to lower cash receipts will be offset by the share of increased government payments that will be paid to landlords. Net rent could fall in 1999, however, if significant changes occur in cash rent contracts.

Hired labor expenses are forecast to rise about \$400 million (2.7 percent) from 1998. This increase would be less than half the expected increase between 1997 and 1998 and would result from a slowing of the rise in farm wage rates. Farm wage rates have been rising faster than the unadjusted consumer price index since 1991.

Government Payments for 1998 Expected To Be Second Highest in the 1990's

Payments for 1999 will be lower, but remain well above the decade average.

Additional Funds and a Rule Change Affect Expected Government Payments in 1998 and 1999

Expected government payments for 1998 and 1999 changed substantially due to 1) supplemental support from the provisions of this fall's appropriations bill (the "Omnibus Consolidated and Emergency Supplemental Appropriations for Fiscal Year 1999"), 2) the importance of loan deficiency payments for crop year 1998, and 3) the offer to farmers of taking 100 percent of their fiscal year 1999 production flexibility payments before January 1, 1999. Disbursement of disaster relief funds and additional one-time payments in 1998 (that were proportionate to the payments under production flexibility contracts) have significantly boosted government payments over the amount forecast earlier this year. Current projections are for \$12.9 billion to be received by farmers by the end of calendar 1998 and \$10.2 billion in 1999. During the 1990's, government payments exceeded those forecast for 1998 and 1999 only in 1993.

The 1996 Farm Act's production flexibility payments, which replaced most commodity programs, were pegged to a declining budget allocation. Regardless of commodity prices, participants would have received about \$5.7 billion in production flexibility payments in 1998 and \$5.5 billion in 1999. To estimate calendar year payments (from fiscal year budget allocations) it is assumed that 20 percent of next year's payment is taken before December 31. Legislation late this summer changed the rules so that farmers could elect to take all of their fiscal 1999 production flexibility payments in the remaining months of 1998 (as opposed to the 50 percent proposed in the 1996 Farm Act). It is expected that some farmers, particularly those in areas affected most by climatic disasters and lower prices for grains and soybeans, will take their entire fiscal 1999 payment in 1998. It is too early to have observable data to gauge how much of fiscal 1999's payment will be requested before the year's end, so our working assumption is that an additional 10-12 percent could be added in 1998. This would increase production flexibility payments in calendar 1998 by about \$600 million and reduce calendar 1999 production flexibility payments by the same amount.

Almost \$6.0 billion of new funding was introduced in the October appropriations bill that will affect the agricultural sector, of which about \$5.6 billion is expected to be disbursed as direct government payments in 1998 and 1999. An amount

of \$2.857 billion is intended as an addition to 1998 payments, to be paid before the end of the calendar year. The bulk of the remaining funding is intended for disaster payments. Most of the disaster component is likely to be disbursed in calendar 1999. Our current assumption is that no more than 10 percent of the disaster funds will be disbursed before the end of calendar 1998. This suggests that about \$3.1 billion in additional government payments for 1998 and \$2.5 billion for 1999 will be distributed to farmers from this legislation.

Regional Distribution of Government Payments May Differ Between 1998 to 1999

The expected distribution of the additional payments for 1998 can be foreseen by reviewing the historic allocation of these payments across regions. According to Farm Service Agency (FSA) data, nearly half of fiscal 1998 production flexibility payments went to major grain-producing regions, the Corn Belt and Northern Plains (figure 6). Notably, these are regions where lower grain prices contributed to lower agricultural income in 1998.

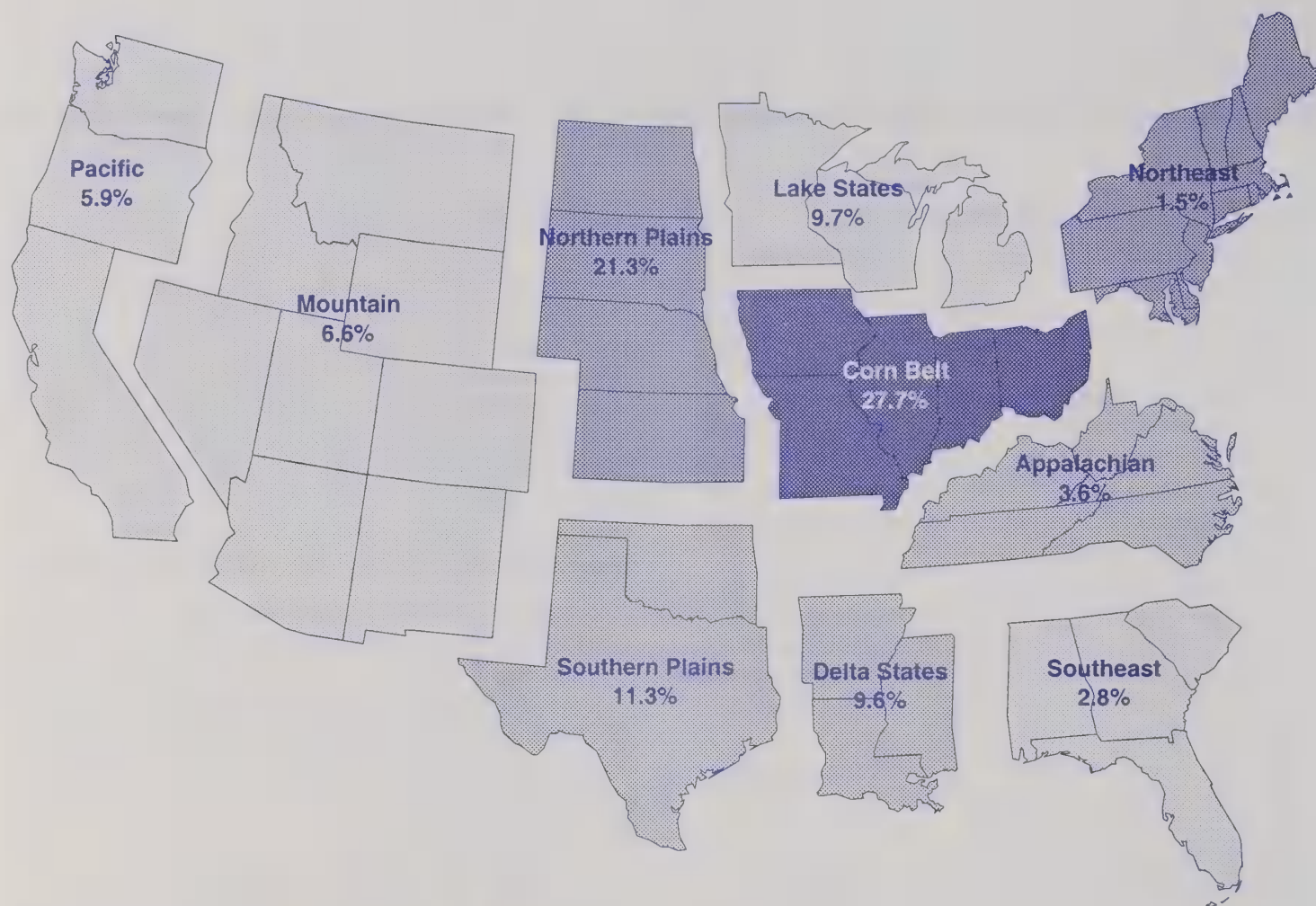
Since most of the remaining supplemental funds from the fiscal 1999 appropriations bill are intended for farm operations suffering crop disasters in 1998 and earlier years, their regional distribution will depend upon assessment of which localities meet "disaster" criteria and the extent of their losses. The regional implication for 1999 is that disbursement of the supplemental funds will be directed toward areas regarded most in need of disaster relief and, therefore, will not necessarily coincide with grain-producing regions as occurred in 1998.

Loan Deficiency Payments Emerge as an Important Component of Government Payments

Loan deficiency payments emerged as a significant portion of direct government payments in 1998. At harvest, producer prices for the commodities covered were below the established CCC loan rate (see figures 7-9). Although it varies by commodity, the loan rate is typically 85 percent of the average price for the last 5 years, throwing out the highest and lowest price. Some commodities have a statutory maximum or minimum price level. Corn, for example, cannot exceed \$1.89. Farmers can receive the difference between the loan rate (\$1.89 for corn in 1998), adjusted to local markets (at the county level), and the quoted county

Figure 6

Regional ranking of fiscal year Production Flexibility Payments



Source: Farm Service Agency, USDA.

price. Once they have taken a loan deficiency payment for an eligible commodity, farmers can no longer place this same crop under a non-recourse loan. (For additional detail, see FSA, *Background Information: Non-Recourse Marketing Assistance Loans and Loan Deficiency Payments*, March 1998, available on <http://www.fsa.usda.gov/pas/publications/facts/nonrec98.pdf>. Also see *Agricultural Outlook*, "Low Prices Test 1996 Farm Act," October 1998, pp. 12-14.)

Loan deficiency payments are complex to forecast. Since they are based upon a comparison of the posted county price in a particular county and the loan rate for that county, many local factors are at play that are not discernable from average prices at the national level. What is clear is that local prices were sufficiently low in many production areas in 1998 to trigger the provisions of the loan deficiency program. Commodity price forecasts suggest that the provisions will be triggered again in 1999. As of November 30, 1998, FSA had officially reported \$1.4 billion in crop-year 1998 loan deficiency payments. The present forecast presumes that loan deficiency payments will reach \$1.6 billion in 1998, and \$900 million in 1999.

The regional distribution of loan deficiency payments is affected by location and production of the commodities included; wheat, corn, grain sorghum, barley, oats, rice, cotton, and oilseeds (table 1). Corn, wheat, and soybeans represent the lion's share of loan deficiency payments, so areas

Table 1--Distribution of 1998 loan deficiency payments by commodity 1/

Commodity	Unit	Quantity	Payments
		Million units	\$ million
Corn	Bushels	2,037.8	451.4
Wheat	do	1,304.4	384.7
Soybeans	do	941.7	383.1
Barley	do	221.3	67.6
Upland cotton	Bales	1.4	40.4
Grain sorghum	Cwt.	84.6	31.8
Oats	Bushels	96.5	13.0
Canola	Cwt.	10.6	6.9
Sunflower	do	16.5	5.3
Flax	do	2.6	1.5
Total			1,385.6

1/ As of December 1, 1998, reported by FSA/USDA.

Higher 1998 government payments triggered by low harvest prices

Figure 7

Monthly corn prices

Corn prices low enough in 1998 to trigger LDP's

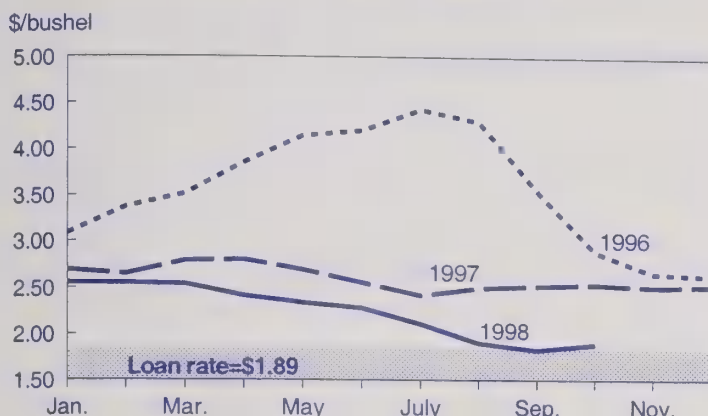


Figure 8

Monthly wheat prices

Harvest prices drop below loan rate

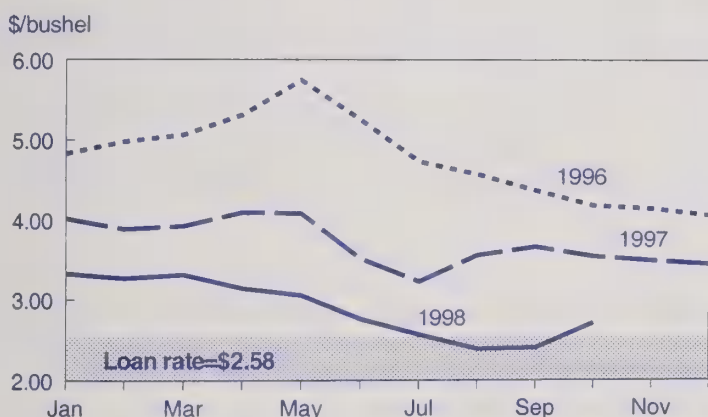
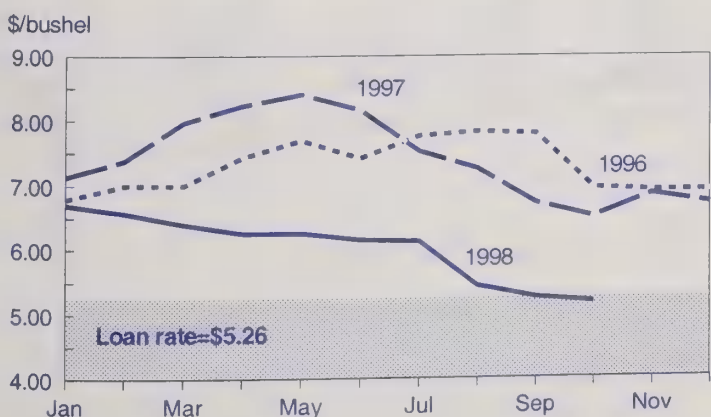


Figure 9

Monthly soybean prices

Post-harvest prices dip below loan rate



Source: National Agricultural Statistical Service, USDA.

dominating the production of these crops will be the largest recipients of payments.

Two-thirds of the 1998 loan deficiency payments reported by December 1 were taken by farms in the Corn Belt, Northern Plains, and Lake State regions. This pattern is very similar to the spatial distribution of production flexibility contracts. There is no reason to believe that this regional distribution will change when complete data become available.

Government Payments Are Important to Farms in the Midwest

For a picture of which farms are most affected by receipt of government payments, we use historic data from USDA's Agricultural Resource Management Study (ARMS). Almost three-quarters of a million, or 36 percent of farms, received government payments in 1997, for an average payment of \$2,903. Total government payments include production flexibility contract payments, disaster payments, payments from participation in conservation programs, Environmental Quality Incentives Program (EQIP) cost-share payments, and payments from other State and Federal programs. The participation rate in the production flexibility contract program is 29 percent of farms.

Not surprisingly, because production flexibility contract payments are based on past production, larger farms received higher payments per farm. Farms with sales over \$250,000 were much more likely to participate in the programs, with 55 to 70 percent of farms in this group receiving payments. These larger farms received 36 percent of payments, and accounted for 47 percent of program commodity sales. While the average payment for the larger farms was considerably higher than for smaller farms, payments were a smaller proportion of their gross cash income—about 3-6 percent compared with 9-12 percent for smaller farms. Limited resource farms had the lowest rate of participation (12 percent) in the production flexibility contract program. For this group, payments averaged 9 percent of gross cash income.

How do payments affect the financial viability of farms? Because most production flexibility contract payments go to producers of cash grains, payments are concentrated in the Corn Belt and Northern Plains regions (figure 10). Farms in the cotton-producing areas of the Southwest also continued to have a high ratio of production flexibility contract payments to gross cash farm income and high debt-to-asset ratios. Vulnerable farms (those with high debt and negative income) received about 5 percent of total government payments—roughly equivalent to their contribution to commodity sales. The impact of government payments on farm households may be felt even more by those in areas where opportunities for off-farm employment are few. Financially stressed farmers for whom government payments are a large share of gross income will have some difficult adjustments ahead.

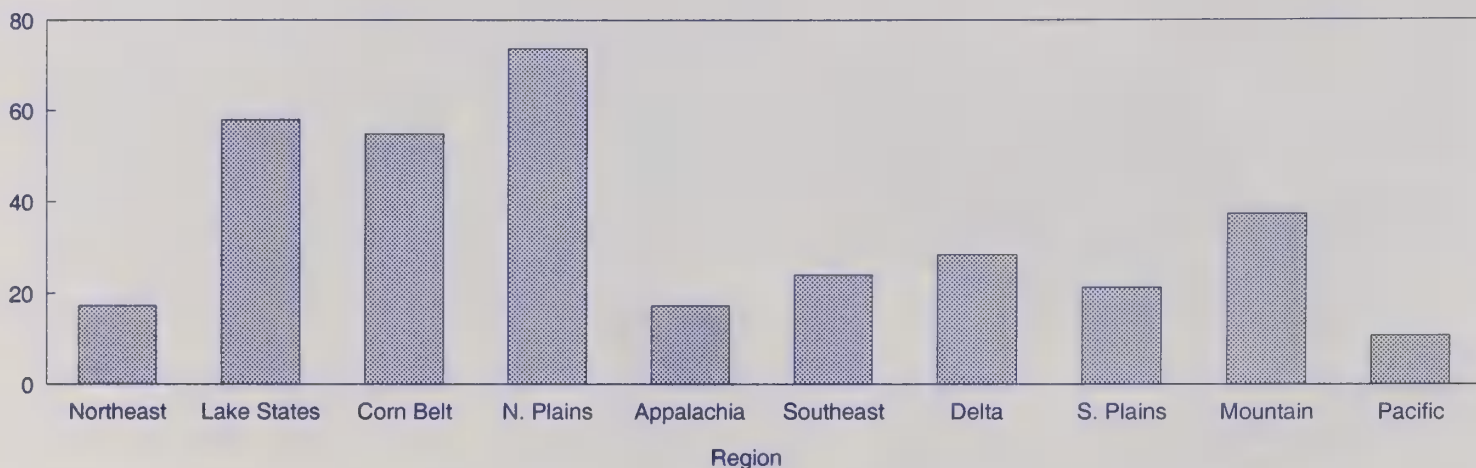
Government payments, especially from conservation programs, are particularly important for limited resource farms, retirement farms, and residential/lifestyle farms. These three groups make up 64 percent of the farms

receiving payments from the Conservation Reserve Program or Wetlands Reserve Program (figure 11). Retirement farms received an average of \$5,000, the highest average payment under these programs.

Figure 10

Percent of farms receiving government payments

Percent

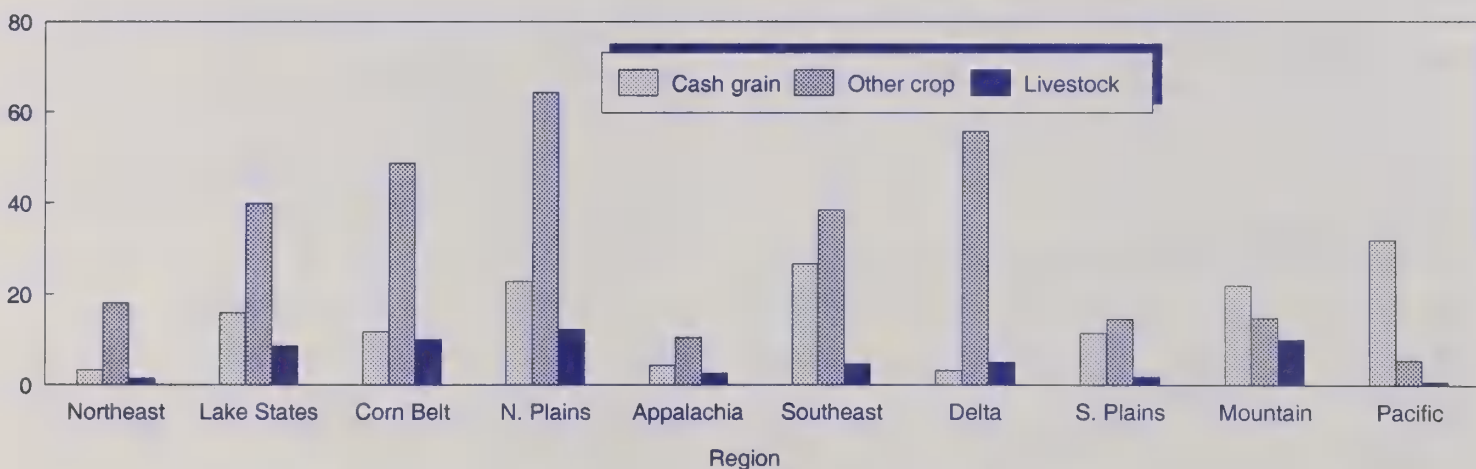


Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Figure 11

Percent of farms receiving CRP and WRP payments

Percent



Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Operator Household Income

Because farm operator household income is more dependent, on average, on off-farm income, expected income in 1999 is little changed from the 1998 estimate.

Farm operator household income averaged \$52,300 in 1997 and is forecasted to be about the same—\$51,000 and \$52,000—in 1998 and 1999 (figure 12). Farm operator household income has averaged about the same as average U.S. household income during the past three decades.

Forecasts of average operator household income are not highly sensitive to forecast income from farming because farm earnings make up only a small share of total operator household income. For example, the share of income from farm earnings has ranged from 10 to 17 percent since 1988. In 1997, off-farm wages alone made up 54 percent of operator household income. Off-farm income can make up such a large portion of farm household income because only \$1,000 of gross sales is necessary for an establishment to qualify as a farm.

Nevertheless, earnings from farming make an important contribution to household income for households operating larger farms. For example, higher-sales small farms, large

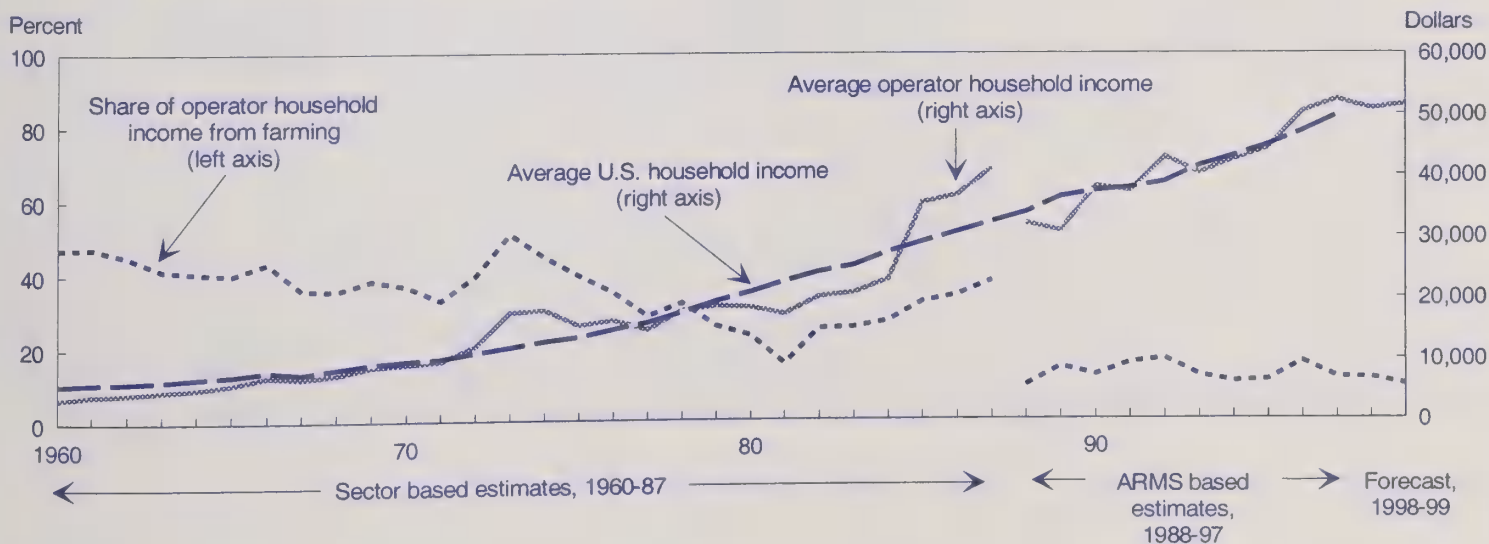
farms, and very large farms received significant income from farming in 1997 (figure 13). In addition, the proportion of farm earnings increases with sales class among these groups. Households operating these farms are affected the most by changes in farm sector income.

These larger farms, however, account for only about 15 percent of all family farms. The remaining 85 percent of farms fall in the limited-resource, retirement, residential, or lower sales categories and depend on off-farm sources for practically all of their household income. Households operating residential or lower-sales small farms rely on off-farm wages or self-employment income for most of their income. Operators of limited-resource and retirement farms rely heavily on Social Security and other public programs. (About 42 percent of limited resource farmers reported they were retired in 1997.) In other words, about 85 percent of farm households are not affected greatly by changes in farm sector income.

Figure 12

Average operator household income, share from farming, and average U.S. household income, 1960-99

On average, farm households rely heavily on off-farm income



Note: Sector-based estimates assume that the operator household receives all income generated by the farm and shares it with no one else, such as partners and contractors. Thus, the share of operator household income from the farm dropped noticeably when ERS switched to the Agricultural Resource Management Study (ARMS), which collects data on the share of the farm's income actually received by the operator household.

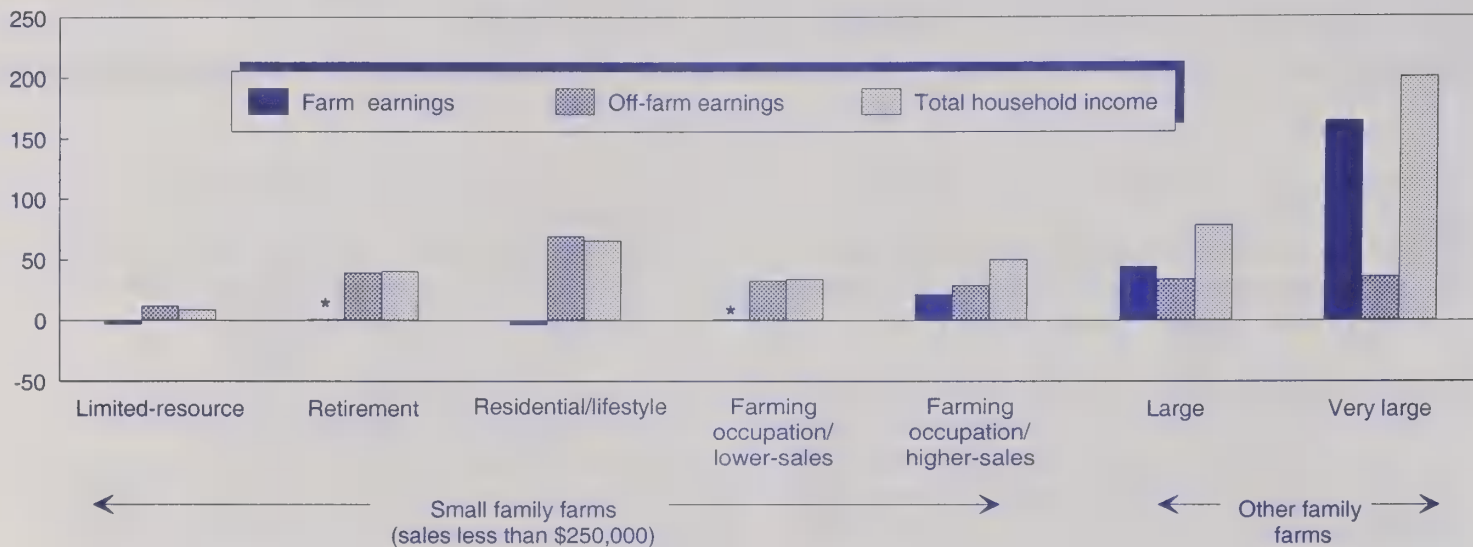
Source: USDA, Economic Research Service, 1997 Agricultural Resource Management Study. U.S. household data are from Bureau of the Census, Current Population Survey.

Figure 13

Average operator household income by source and by farm typology group, 1997

Households operating limited-resource, retirement, residential/lifestyle, and lower-sales farms depend on off-farm sources for most of their income.

\$1,000 per household



* = Coefficient of variation for the farm earnings estimate is greater than 75 percent.

Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Government payments are always a main focus of farm policy discussions. However, the effects of government payments on household income are relatively small when compared with the effects of off-farm income. Regardless of the type of farm, the average government payment is smaller than average off-farm income. Even for households operating very large farms, government payments averaged

\$19,400, which is much less than their \$36,300 average off-farm income. Also, government payments are part of gross cash farm income; expenses must be subtracted from gross cash income before net income can be spent by the operator household. In contrast, all off-farm income—as measured here—is available to the household.

The Geography of Operator Household Income

Farm households' dependence on farm income also varies geographically. For example, operator households tend to be more dependent on farm earnings in farming-dependent counties than elsewhere. The 556 farming-dependent counties received at least 20 percent of their income from farming in 1997 and are largely concentrated in the Northern and Southern Plains.

Farm households in farming-dependent counties received an average of \$11,700 from farming activities in 1997, or double the amount in other nonmetro counties or in metro counties (figure 14). About 27 percent of operator household income came from farm earnings in farming-dependent counties, compared with only 10 percent in other nonmetro counties and 9 percent in metro counties. About one-fourth of farm households in farming-dependent counties operated higher-sales small farms, large farms, and very large farms, compared with just over one-tenth of households in other nonmetro or metro counties. Metro and other nonmetro counties had proportionately more retirement and residential farms than farming-dependent counties.

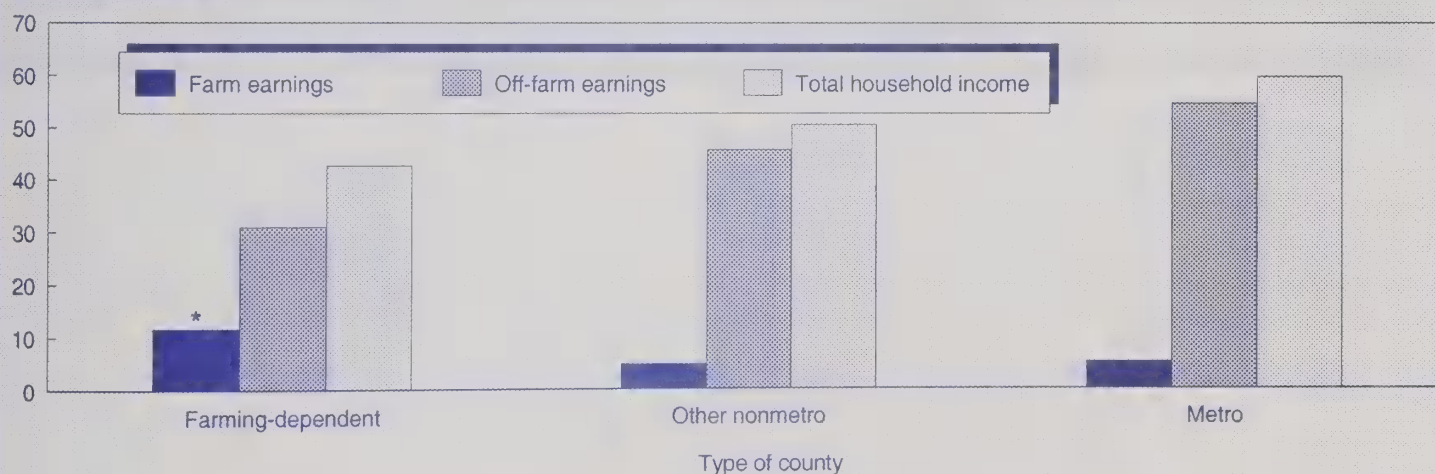
Changes in farm sector income in 1998 and 1999 are likely to have an important impact in farming-dependent counties for two reasons. First, farm households rely more on farming in farming-dependent counties. Second, the local economy in farming-dependent counties also depends more on farming.

Figure 14

Average operator household income by source in farming-dependent counties, other nonmetro counties, and metro counties, 1997

Farm households in farming-dependent counties rely more heavily on farm earnings

\$1,000 per household



Note: A metropolitan (metro) area is a county or group of counties containing a population concentration of 50,000 or more. Nonmetro (nonmetro) counties lie outside metro areas. Farming-dependent counties are nonmetro counties that received at least 20 percent of their income from farming in 1987-89.

* = Coefficient of variation for the farm earnings estimate is greater than 25 percent, but less than 50 percent.

Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

The Farm Typology

Small Family Farms (sales less than \$250,000)

1. **Limited-resource farms.** Any small farm with: (1) gross sales less than \$100,000, (2) total farm assets less than \$150,000, and (3) total operator household income less than \$20,000. Limited-resource farmers may report farming, a nonfarm occupation, or retirement as their major occupation.
2. **Retirement farms.** Small farms whose operators report they are retired. (Excludes limited-resource farms operated by retired farmers.)
3. **Residential/lifestyle farms.** Small farms whose operators report they had a major occupation other than farming. (Excludes limited-resource farms with operators reporting a nonfarm major occupation.)
4. **Farming occupation/lower-sales.** Small farms with sales less than \$100,000 whose operators report farming as their major occupation. (Excludes limited-resource farms whose operators report farming as their major occupation.)
5. **Farming occupation/higher-sales.** Small farms with sales between \$100,000 and \$249,999 whose operators report farming as their major occupation.

Other Farms

6. **Large family farms.** Sales between \$250,000 and \$499,999.
7. **Very large family farms.** Sales of \$500,000 or more.
8. **Nonfamily farms.** Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers.

Farm Income Rose in 1998 After the Enactment of Agricultural Relief Package

Previous forecasts of 1998 farm incomes have been revised to incorporate new data.

Net farm income for 1998 is estimated to be \$48 billion, down \$1.9 billion from 1997 and \$5.4 billion below 1996. While production of many agricultural commodities remained high, low prices led to lower income. Unfavorable weather and crop disease contributed to disproportionate effects across commodities and regions. Grain producers, particularly wheat farmers in the Northern Plains, have been among those most adversely affected by lower prices. Farmers in the South, particularly cotton producers, experienced weather adversity in 1998 from drought, hurricanes, and flooding.

Cash receipts from sales of farm commodities in 1998 were down \$10.6 billion from 1997, with crops accounting for \$7.4 billion of the decline and livestock accounting for the remaining \$3.2-billion drop. Most of the decline is attributable to falling prices received by farmers. The drop in sales was largely offset by a \$5.4-billion rise in government payments to farmers and a \$3.4-billion decline in production expenses, with the latter due to declining input prices. Interest rates and fuel prices were the lowest in recent years. Low fuel prices translated into lower fertilizer prices and lower feed grain prices reduced the cost of feed purchased for livestock.

Farm Debt Anticipated To Fall Slightly in 1999

Farm debt may fall about 1 percent in 1999, as farmers are expected to use a portion of their additional government payments to reduce outstanding loan balances. The anticipated reduction follows an expected 3-percent rise in farm debt in 1998. Despite slightly lower debt levels and favorable interest rates, lower net cash income means farmers will have less money to service debt. As a result, farmer use of debt repayment capacity is forecast to rise to 57 percent in 1999, up from 55 percent in 1998 and 53 percent in 1997.

Farm business debt is anticipated to stand at about \$169 billion by the end of 1999, down about \$1 billion from 1998 (figure 15). Given anticipated 1999 price and income levels, and uncertainty about the timing of economic recovery in countries that are major purchasers of U.S. farm exports, indebted farmers are expected to improve their balance sheets by applying some of their additional government payments to existing debt.

Farmers may choose to hold a substantial portion of the payments they receive under the recent emergency assistance package, in anticipation of more limited credit availability in the spring. While there are ample funds available for lending to creditworthy borrowers, bankers in some regions of the country have been reporting that, given the commodity prices that are likely to be used in projecting next season's receipts, some current borrowers may have difficulty showing that they can cash flow their production loans.

Farmers may consider keeping their payments to protect themselves against potential difficulty in obtaining adequate

production financing in the spring. Any credit gaps may be filled by the increasing number of machinery, seed, and chemical suppliers. These input suppliers are expanding their traditional use of financing as a means of boosting product sales, and are offering financing to meet the farmer's full production credit needs.

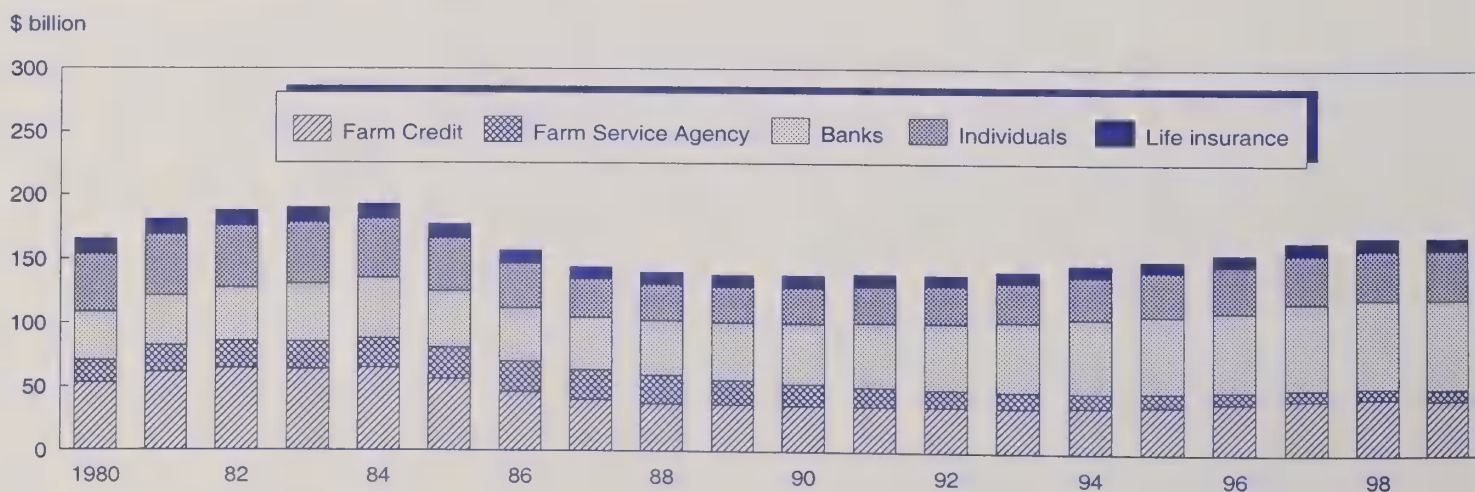
Income Changes, Farm Debt Not Evenly Distributed

Sector-wide net cash income in 1999, while above the average for the 1990's, is expected to be about 6 percent below its 1998 level. The impacts of this decline will not be evenly distributed across all U.S. farm operations, and producers specializing in production of wheat, corn, and soybeans will likely begin to feel additional financial stress. However, even these operations may be able to offset income losses from these products by diversification into other commodities.

Farm operators in the Lake States, Corn Belt, and Northern Plains owed almost 48 percent of all farm operator debt at the end of 1997 (figure 16). Almost 28 percent of this debt

Figure 15

Banks and Farm Credit System provide two-thirds of all farm business debt

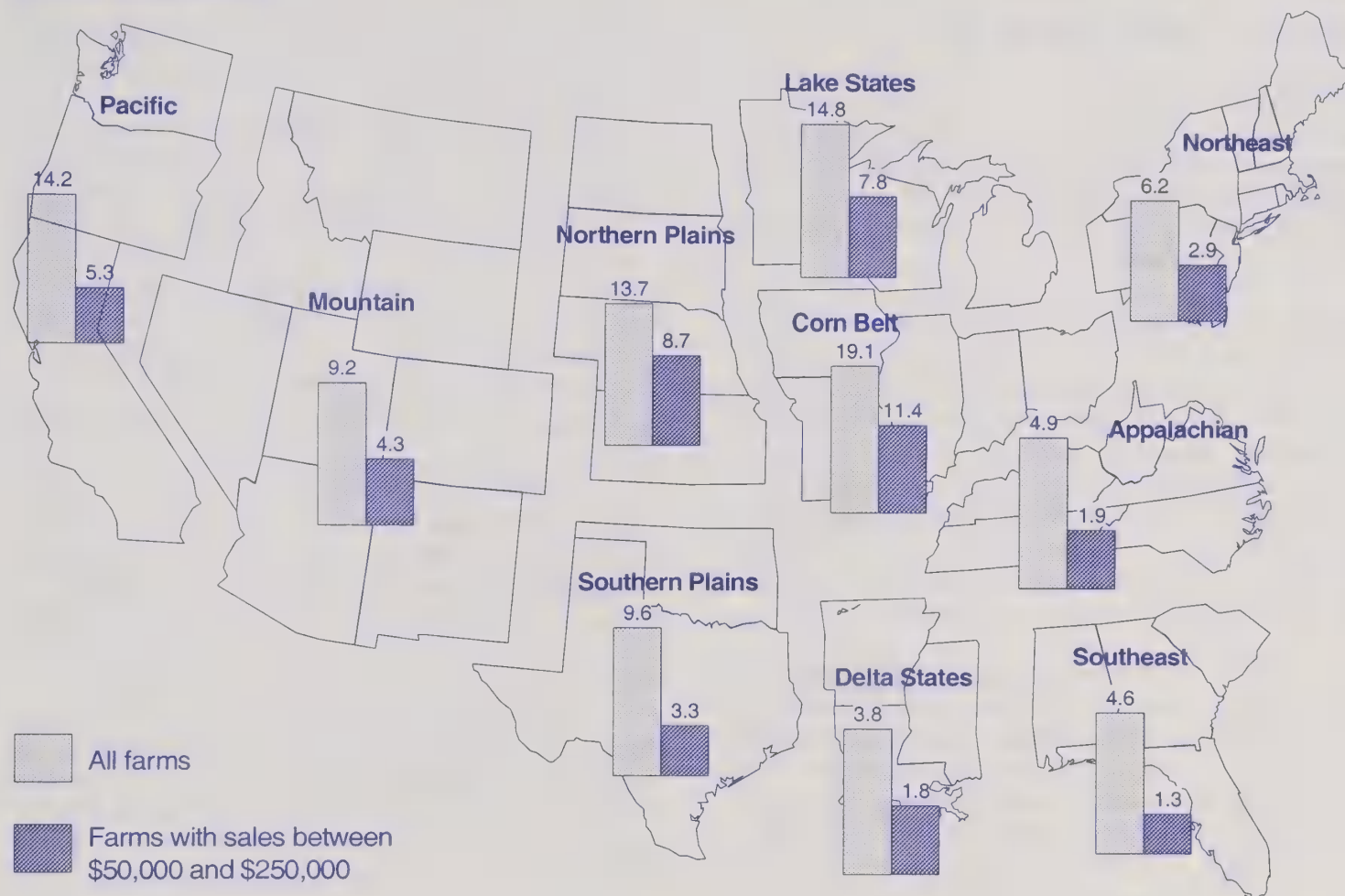


Source: Economic Research Service, USDA.

Figure 16

Regional distribution of farm operator debt

Almost 48 percent of all U.S. farm operator debt is owed by operators in the Lake States, Corn Belt, and the Northern Plains. About 28 percent of all debt is owed by operators in these regions with sales between \$50,000 and \$250,000



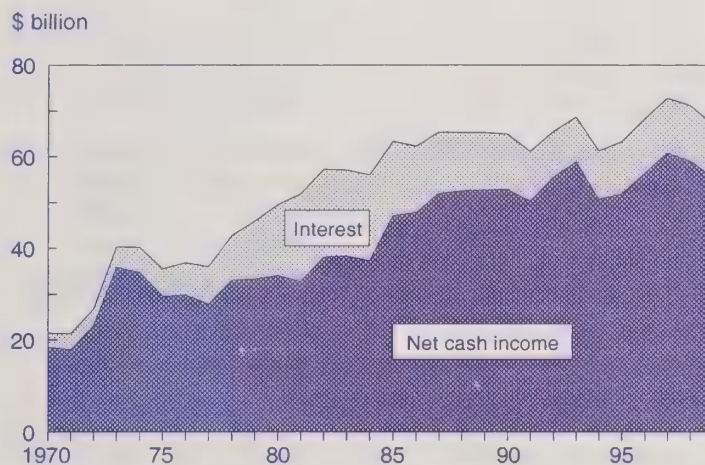
Source: Economic Research Service, USDA.

was owed by operators that reported value of sales between \$50,000 and \$250,000, a group consisting mainly of smaller family farm operations. While operations in these size classes tend to produce those commodities experiencing low prices (wheat, corn, and soybeans), the same types of farms are benefiting from additional government payments authorized in the recent emergency assistance package.

The reduction in debt, coupled with favorable interest rates projected for 1999, are expected to ease the impact of lower income. Total interest expenses are anticipated to decline about 3 percent in 1999. The income that farmers have available to service debt can be estimated by adding farm operator interest expenses to net cash income. About 17 percent of this available income will be applied to interest expenses in both 1998 and 1999 (figure 17), compared to, for example, 38 percent of available income in 1981. However, it appears that, as a group, farm operators will have less income available to meet 1999 principal and inter-

Figure 17

Interest payments took 38 percent of available cash in 1981, about 17 percent in 1999



est payments on their loans, and those operators experiencing the greatest reduction in income may experience additional difficulty in meeting their debt service requirements in 1999.

Debt Grew Rapidly Through 1998

The expected debt stabilization in 1999 will follow 6 consecutive years of rising farm debt (figure 18). From the beginning of 1993 through the end of 1998, farm debt rose more than \$31 billion, an increase of 23 percent. More than \$14 billion of this increase occurred in 1997 and 1998, when a rise of more than \$9 billion in 1997 was followed by a \$5-billion rise in 1998.

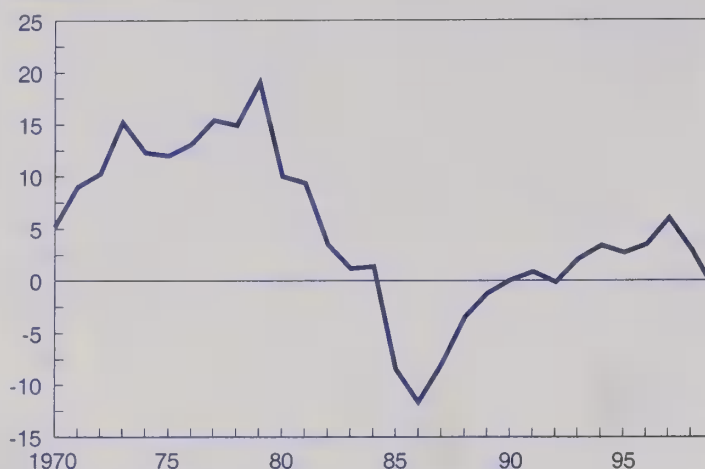
Farmers use credit as source of capital to purchase land, technology, and equipment, which, when appropriately combined, can lead to improved productivity and higher profits. The current Farm Act allows farmers greater flexibility in determining that combination of commodities to produce to maximize profit on their individual operations. The recent rise in loan balances can be at least partially attributed to farmers' positive view of the future of the sector, given its comparative advantage in liberalized global markets. Strong farmland markets of recent years also support this contention.

Much of the rise in farm business debt in recent years can be attributed to financing of machinery sales and greater competition among input suppliers to provide credit to farmers purchasing their feed, seed, and chemical products. Total nonreal estate debt is anticipated to decline slightly in 1999, following increases of 3 percent in 1998 and almost 8 percent in 1997 (table 2). While machinery sales are expected

Figure 18

Year-to-year to changes in farm debt

Percent



1998 and 1999 forecast.

Source: Economic Research Service, USDA.

to drop in 1999, debt will not drop proportionally because of the carryover from 1998 purchases. After reporting an 8-percent increase in net sales for the first half of 1998, Case Corporation announced a 9-percent cutback in farm equipment production in anticipation of slackening demand in both domestic and international markets. John Deere, citing weaker conditions in agricultural equipment markets, reported net sales down 10 percent in the quarter ending October 31, 1998. Deere is projecting 1999 retail demand for agricultural equipment to decrease 20 percent in North America, and 10 to 15 percent in its global markets.

Table 2--Farm business debt outstanding, by lender, December 31, selected years, 1984-99F

Lender	1984	1988	1992	1996	1997	1998F	1999F
	Million dollars				Billion dollars		
Real estate	106,697	77,833	75,421	81,657	85,359	88	87
Farm Credit System	46,596	28,445	25,408	25,730	27,098	28	28
Farm Service Agency 1/	9,523	8,980	6,394	4,702	4,373	4	4
Life insurance companies	11,891	9,039	8,765	9,468	9,699	10	9
Commercial banks	9,626	14,434	18,757	23,276	25,240	27	27
CCC storage facility	623	21	2	0	0	0	0
Individuals and others	28,438	16,914	16,095	18,481	18,950	19	18
Nonreal estate	87,091	61,734	63,631	74,417	80,054	83	82
Commercial banks	37,619	28,309	32,912	38,344	41,713	43	43
Farm Credit System	18,092	8,766	10,346	14,015	15,243	16	15
Farm Service Agency 1/	13,740	12,899	7,143	4,614	4,283	4	4
Individuals and others	17,640	11,760	13,230	17,444	18,816	20	20
Total debt	193,788	139,567	139,052	156,074	165,413	170	169
Farm Credit System	64,688	37,211	35,753	39,745	42,341	44	43
Farm Service Agency 1/	23,263	21,879	13,538	9,316	8,655	8	8
Commercial banks	47,245	42,742	51,669	61,620	66,952	70	70
Life insurance companies	11,891	9,039	8,765	9,468	9,699	10	9
Individuals and others	46,701	28,694	29,327	35,925	37,766	38	38

1/ Formerly Farmers Home Administration.

Balance Sheets Have Improved

Despite the increase in debt in recent years, farm business balance sheets have shown steady improvement throughout the 1990's, especially since 1992. Debt-to-asset ratios have improved, as the 23-percent increase in farm business debt has been more than offset by the 29-percent rise in the value of farm business assets (figure 19).

The value of farm real estate has risen almost 39 percent from 1992 through the end of 1998, while farm mortgage balances have increased about 16 percent. As a result, the degree of U.S. farmland leverage has declined substantially, providing most producers with an added equity cushion to lessen the impact of short-term declines in income. Simultaneously, however, farm nonreal estate debt has been rising at a faster rate than the value of nonreal estate assets. During 1993-98, nonreal estate assets have risen less than 3 percent, while nonreal estate debt has increased 13 percent.

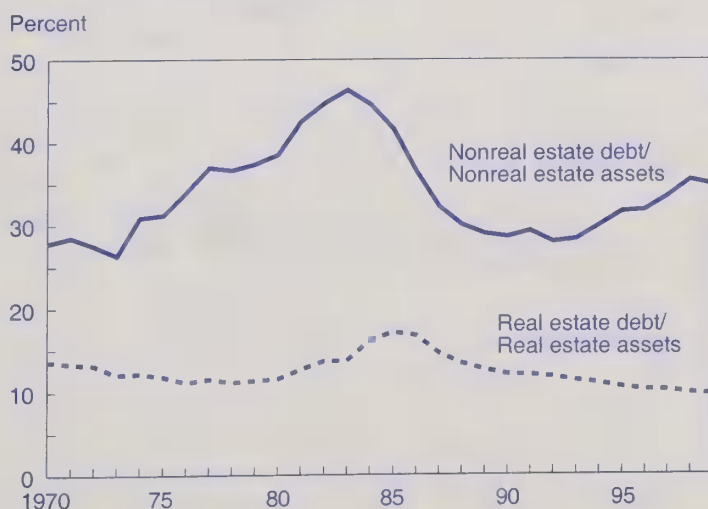
Farm Credit System Loan Quality High

Farm business debt (real estate and nonreal estate) owed to the Farm Credit System (FCS) is forecast to decrease about 2 percent in 1999, following increases of almost 4 percent in 1998 and 6.5 percent in both 1996 and 1997 (figure 20).

FCS mortgage debt is projected to decline less than 2 percent in 1999, after gains of more than 3.5 percent annually during 1996-98. System real estate debt increased from less than \$20 billion at the end of 1977 to more than \$46 billion by yearend 1984. FCS experienced substantial loan losses and borrower flight during the mid-1980's, and farm mortgage debt subsequently fell to \$25 billion by 1992. The

Figure 19

The recent rise in the nonreal estate debt/asset ratio reflects the growth of supplier-financed input purchases. Simultaneously, the farm real estate debt/asset ratio has declined.

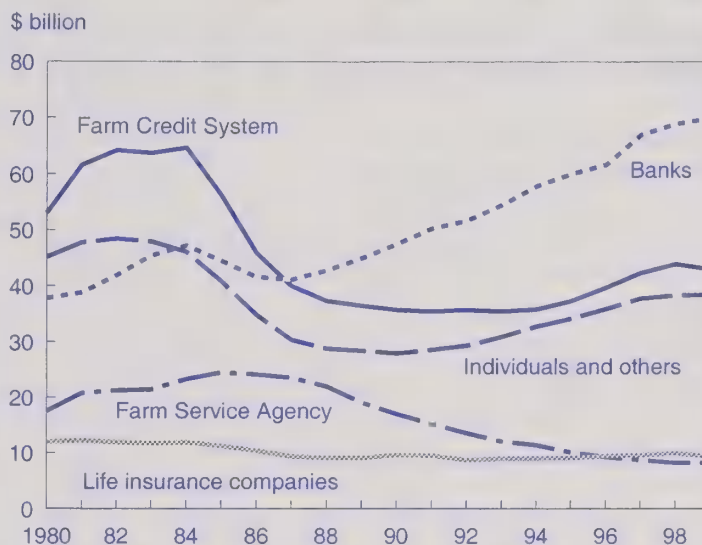


1999 forecast.

Source: Economic Research Service, USDA.

Figure 20

Banks' farm business debt rising rapidly



Source: Economic Research Service, USDA.

FCS' real estate debt rise of 3.5 percent in 1996 was its first significant increase in over a decade. As commercial banks gained real estate lending market share, FCS farm mortgage debt stagnated at the \$25-billion level. Projections for 1998 indicate that yearend FCS farm mortgage debt will surpass \$28 billion for the first time since 1988.

Preliminary projections indicate that FCS nonreal estate loans will decrease about 1 percent in 1999, following gains of 4 percent in 1998, 9 percent in 1997 and 12 percent in both 1995 and 1996. FCS nonreal estate debt had experienced a surge and decline similar to that of mortgage lending, as it rose from about \$13 billion in 1977 to more than \$21 billion in 1981, then fell to less than \$9 billion in 1988. FCS nonreal estate debt is projected at about \$15 billion by the end of 1998.

While the overall quality of the FCS farm loan portfolio remains high, the Federal Farm Credit Banks Funding Corporation reported that nonperforming loans (nonaccrual loans, accruing restructured loans, and accruing loans 90 days or more past due) increased almost 27 percent in the third quarter of 1998, principally due to a limited number of loans to processing and marketing cooperatives that were placed in nonaccrual status. Despite the deteriorating quality of these loans, only 1.6 percent of all loans are now classified as nonperforming.

Banks' Growth in Farm Loans Slows

The amount of farm debt held by banks is expected to be unchanged in 1999, following a rise of more than 4 percent in 1998, or about \$2.5 billion. Nonreal estate farm loan balances are projected to rise less than 3 percent in 1998, while loans secured by farmland are expected to increase almost 6 percent.

Agricultural banks enter 1999 well capitalized and report ample funds to meet the credit needs of qualified borrowers. Through midyear 1998, agricultural banks reported a slight decrease in both delinquencies and charge-offs of nonreal estate debt. Charge-offs may rise during 1999, as banks now move quickly to resolve problem loans. Otherwise, banks are reporting consistent earnings and are well capitalized to deal with borrower difficulties.

Any financial difficulty that farmers may have experienced in 1998 has not yet been transmitted to agricultural banks. When analyzing banks' quarterly call reports, Federal Reserve researchers have traditionally considered a bank to be "agricultural" for a reporting period if its ratio of farm loans to total loans is greater than the national average for all banks, which is usually about 15 percent. Banks are considered likely to experience financial problems when nonperforming loans exceed 25 percent of bank capital. As of September 30, 1998, only 3.6 percent of agricultural banks reported nonperforming loans greater than 25 percent of capital, a slight increase from 2.8 percent at the end of 1997.

Farmers' Use of Repayment Capacity To Rise in 1999

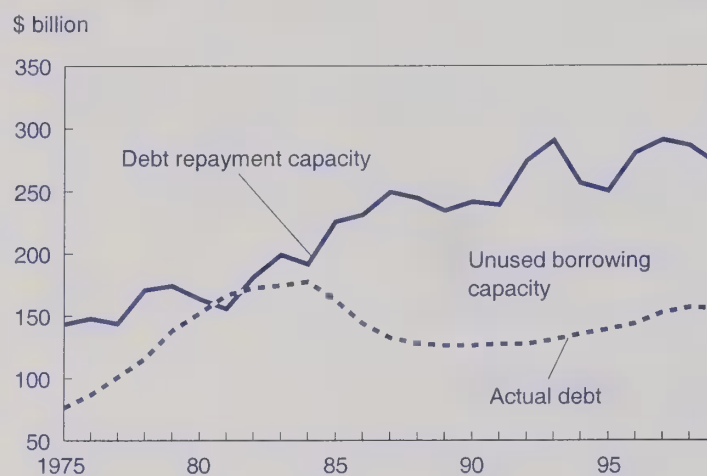
Farmers are expected to use their available credit lines more fully in 1999. Lenders generally require that no more than 80 percent of a loan applicant's available income be used for repayment of principal and interest on loans. For farm operators, this income available for debt service (measured as net cash income plus interest) can be used to determine the maximum amount of loan payment the farmer could make. Given current market interest rates and an established repayment period, the maximum debt that the farmer could carry with this loan payment can be determined. Using current bank interest rates and a 7-year repayment period, maximum feasible debt conceptually measures the line of credit that could be available to farmers (figure 21).

Farm debt repayment capacity use (actual debt expressed as a percentage of maximum feasible debt) effectively measures the extent to which farmers are using their available lines of credit (figure 22). In 1999 farmers are expected to use more than 57 percent of the debt that could be supported by their current incomes. Use of debt repayment capacity rose from 45 percent in 1993 to 56 percent in 1995. Despite the 1996 rise in farm business debt, high net cash incomes and lower interest rates caused use of debt repayment capacity use to drop to 51 percent. Expected favorable interest

rates and reduced debt in 1999 will not be sufficient to offset the effect of lower net cash income, as reflected in the rise of debt repayment capacity use to 55 percent in 1998 and 57 percent in 1999.

Figure 21

Farm operators' actual debt lower in 1999, debt repayment capacity declines

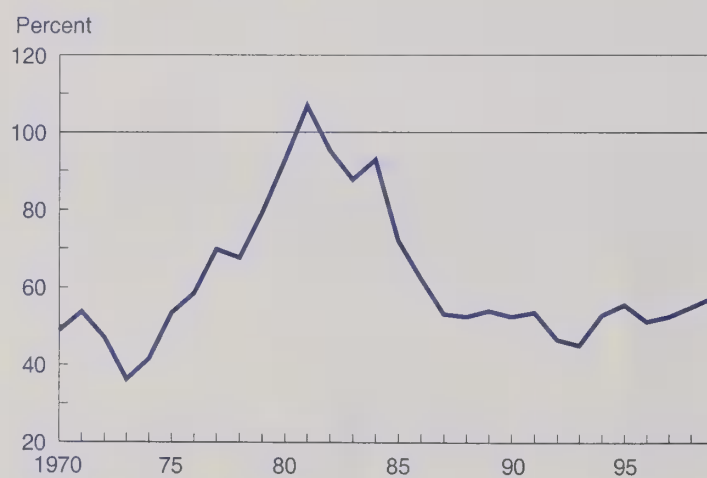


1999 forecast.

Source: Economic Research Service, USDA.

Figure 22

Utilization of debt repayment capacity expected to be higher in 1999



1998 and 1999 forecast. Actual debt compared with a hypothetical maximum debt that could be carried based upon repayment capacity.
Source: Economic Research Service, USDA.

Lower Interest Rates To Benefit Farmers

Farm sector interest expenses are expected to decline \$400 million in 1999, 3 percent below 1998. The slow, steady-growth, low-inflation economy of 1999, while likely to generate a lowering in all current market interest rates, is not expected to produce a simultaneous proportional drop in farm interest expenses.

Total farm business debt is expected to be about \$169 billion by the end of 1999. Theoretically, a 100-basis point decrease in market interest rates would suggest that interest expenses could fall almost \$1.7 billion, raising net farm income by that amount. However, the actual decrease in farm business interest expenses is expected to be substantially less.

Changes in current market interest rates are not reflected immediately in farm interest expenses due to a variety of factors. First, interest rates on new agricultural loans do not respond instantaneously to changes in general market interest rates. ERS research suggests that changes in the 3-month T-bill rate produce changes in commercial bank interest rates on new farm loans, but the change is less than proportional and occurs with about a 3-month lag. Additionally, these farm interest rate responses to market rate changes refer to rates on new loans. Interest expenses are based on average interest rates on all loans outstanding, rather than rates on new loans only.

While 55 percent of all bank farm loans are made on variable interest rates, such loans can only periodically be adjusted to reflect new market rates. There is a lag between the date of the rate changes for new loans and the adjustment date of the variable rate loan. The responsiveness of average interest rates to changes in rates on new variable rate loans diminishes as the use of variable rate loans declines. During periods of favorable interest rates, farmers prefer to lock in interest rates for the life of the loan. In the third quarter of 1998, fewer than 55 percent of bank nonreal estate loans were made with a floating interest rate, compared with almost 77 percent in 1993.

Finally, total interest expense also depends on the level of debt outstanding. While debt balances are projected to decline in 1999, the decrease in interest expenses could be overstated if farmers respond to lower market interest rates by increasing their demand for new loans.

Farm Assets and Equity Values Continue Upward Through 1999

Farm financial ratios remain favorable even with declines in farm income.

The value of farm business assets and equity is expected to continue upward through 1999 supported by continued growth in farm income and returns to farm assets.

Farm business equity is expected to continue rising as farm asset values rise more rapidly than farm debt. Equity by the end of 1999 is expected to be \$971.2 billion, nearly \$17 billion above 1998, and over \$376 billion greater than in 1985 (figure 23). The value of farm business equity represents a large amount of economic wealth. As a comparison, the agricultural sector's total assets are equal to twice the reported assets of the Nation's three largest automakers.

The long-term farm equity comparison is a little different if the numbers are adjusted for inflation. Real farm equity in 1999 deflated by the GDP chain-weighted price deflator, is forecast at \$843.1 billion. In 1986, by comparison, farm equity had an inflation-adjusted value of \$705 billion compared with an estimated peak of almost \$1,351 billion in 1980. Consequently, farm sector wealth in 1999 is still \$490 billion below the inflation-adjusted value of farm equity in 1980.

Farm Real Estate Values Continue Rising

While net farm income is down from 1998, cash receipts remain historically high, returns to farm assets are still

favorable, and borrowing costs and inflation are relatively low. Although the real net return on farm assets is still near historic highs, it is expected to decrease from -0.04 percent in 1997 to about -3.1 percent in 1999. This suggests that debt financing to support purchases of farmland and other farm capital assets is becoming less profitable than in 1997. These factors provide the foundation for continued, but slower, growth in farm real estate values in 1999. ERS forecasts that U.S. farm real estate asset values will rise about 1.5 percent from 1998 levels. However, the rate of growth will vary considerably across farming regions.

Farm income growth is still strong enough across the country to maintain growth in farmland prices. Although commodity prices in 1998 have generally fallen from 1997 levels, government payments have helped support returns to farm assets.

U.S. Farm Asset Values and Debt-to-Net Cash Flow

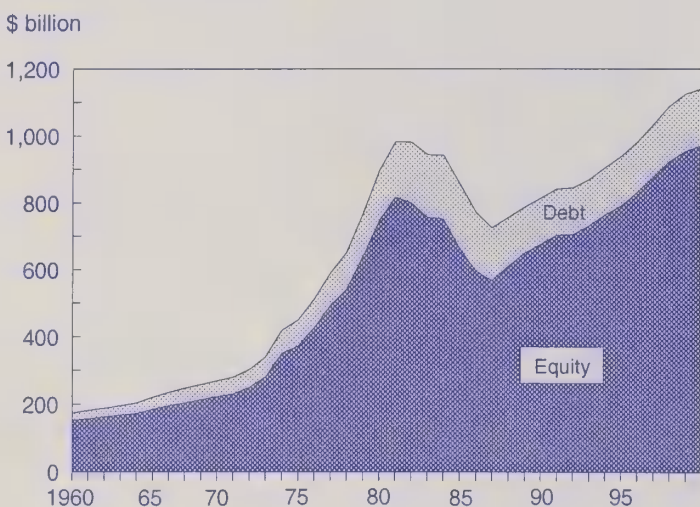
Net cash flow provides an indication of the total resources available to farm businesses for investment in the farm sector, and to meet current debt obligations. Net cash flow expands upon net cash income by accounting for both internal and external sources of funds.

As farm debt and interest expenses have fallen since the end of the "farm financial crisis" of 1980-86, the ratio of debt to net cash flow (after interest expenses) has fallen from as high as 6.1 in 1986 to 2.3 in 1993 (figure 24). The ratio of net cash flow to debt rose from 2.3 in 1997 to 2.7 in 1998, within the historic low range of 2-3. This means that there is \$2.70 of farm debt per \$1 of cash flow in 1998, compared with \$2.30 of farm debt per \$1 of cash flow in 1997.

According to this measure, farm investors have ample cash resources to buy farmland and farm machinery and to meet current debt obligations. Debt-to-net cash flow is forecast to decline to 2.1 in 1999.

Land values rise when debt-to-net cash flow is low. This is consistent with the above interpretation of the "debt-to-net cash flow" ratio, which reflects the amount of cash resources that farm investors have to buy farmland and farm machinery and to meet current debt obligations. When the ratio is relatively low, as it has been since the late 1980's, farmland values have risen, reflecting the fact that farm investors have relatively more cash resources to invest in

Figure 23
Farm assets, debt, and equity
Equity increasing since 1986

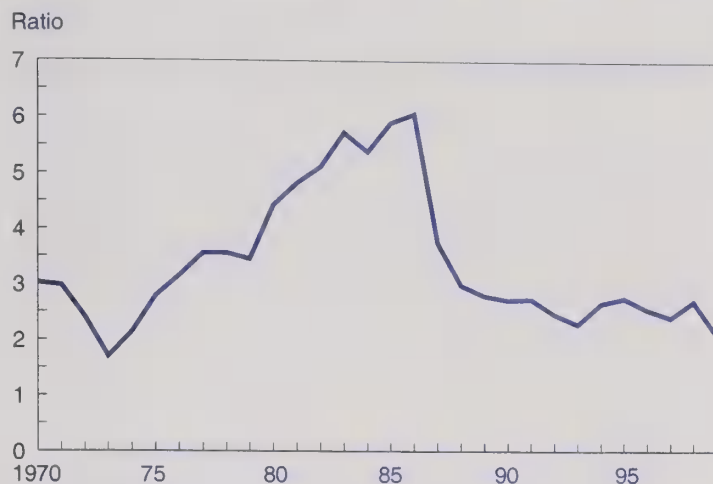


Source: Economic Research Service, USDA.

Figure 24

Debt-to-net cash flow

Debt-to-net cash flow within "historic low" range in 1990's



1998 and 1999 forecast.

Source: Economic Research Service, USDA.

farmland. Also, interest rates (and thus interest expenses) have been low, and returns to farm assets have been relatively strong.

Long-term expectations for reasonably robust—although variable—farm income, stable interest rates and sufficient access to credit markets, and an expansive outlook for agri-

cultural exports are key factors supporting strong demand for farmland, machinery and equipment, and other farm assets.

Continued demand for agricultural land along the fringes of urban areas and demand for rural land for recreational purposes are also contributing to the growth in real estate values, especially in the Northeast and in some Western States.

Nonreal estate values are expected to increase about \$ 3.2 billion (1.4 percent) in 1999. The value of livestock and poultry, crops stored, purchased inputs, and financial assets are all expected to rise slightly. However, the value of machinery and equipment is expected to decline slightly.

Debt-to-Asset Ratio Continues Downward Trend

Indicators measuring the solvency of the farm sector remain favorable for 1998 and 1999. The debt-to-asset ratio indicates the relative dependence of farm businesses on debt and their ability to use additional credit without impairing their risk-bearing ability. The lower the debt-to-asset ratio, the greater the overall financial solvency of the farm sector. The debt-to-asset ratio is forecast to be 14.8 percent in 1999, compared with 15.1 percent expected in 1998. The share of debt to total asset value has been declining steadily in the 1990's, after peaking at 23.0 percent in 1985.

Crop Costs of Production

Slight Rise in 1999 Crop Production Costs Expected

According to USDA's most current forecasts, the production costs of major field crops are expected to rise 1-3 percent from 1998. The overall rise in the prices paid index for farm production inputs (crops and livestock inputs) is forecast at less than 1 percent. However, this average is heavily influenced by an 11-percent decline in feed costs, which have no effect on crop production costs. Among crop inputs, prices for fuels, farm services, and labor wages are forecast to rise 2-4 percent. Agricultural chemicals are the only production input expected to have lower 1999 prices, 2 percent below 1998. Note that the price index for all production inputs in 1998 is 4 percent below 1997 with prices for fuels and fertilizers declining the most.

The mix of inputs determines which crops are most affected by changes in input prices. Cash costs will rise \$8-\$11 per acre for rice and cotton, while the increase will be only \$1-\$2 per acre for other crops. The higher costs for cotton and rice are due to intensive use of fuels, farm services, and labor.

Given expected supply and demand conditions for 1999, yields and prices will likely be near 1998 levels. This will make returns more than enough to cover cash costs, but not enough to cover cash costs plus capital replacement except for soybeans. Per acre returns above cash costs at differing crop yields and prices are shown in table 3. Wheat has the lowest per acre return above cash costs compared with other crops. This suggests that if wheat prices decline in relation to other crops and with increased planting flexibility under the 1996 Farm Act, wheat area would likely shift in favor of other crops (such as soybeans, corn, and cotton) in regions where alternative crops can be grown.

Of course, the returns shown in table 3 only represent the average. For example, ERS research shows that about half the annual corn crop is produced at or below the average cost. For corn growers, regional differences in production systems become important. Most growers in the North Central and Plains regions typically have a cost advantage over other growers. For soybeans, about 44 percent would be produced at or below the average cost. The lowest per acre costs for soybean growers are found in the Northern Plains and yields there can be at or above average depending on the year's weather. Because soybeans have a shorter growing season than corn, cotton, and rice (crops frequently found in rotation with soybeans), there is frequently time to plant soybeans if planting of corn, cotton, and rice crops is delayed or abandoned. About 42 percent of wheat production should be produced at or below the average cost.

The costs of production forecasts for 1999 (table 4) are at the national level and may differ considerably for the individual farmer and by size of operation (figures 25-27). The forecasts include the costs of the farm operator and landlord but exclude the direct costs associated with government commodity programs.

Table 3-- Returns above cash costs (\$/acre) at differing yields and prices

		Yield	----- Price (\$/unit) -----			
Corn	Bu.	1.89	2.10	2.30	2.50	
	80	-54.95	-38.15	-22.15	-6.15	
	100	-17.15	3.85	23.85	43.85	
	120	20.65	45.85	69.85	93.85	
	140	58.45	87.85	115.85	143.85	
Soybeans	Bu.	5.26	5.50	6.00	6.50	
	30	28.85	36.05	51.05	66.05	
	35	55.15	63.55	81.05	98.55	
	40	81.45	91.05	111.05	131.05	
	45	107.75	118.55	141.05	163.55	
Wheat	Bu.	2.58	3.00	3.50	4.00	
	30	-15.10	-2.50	12.50	27.50	
	35	-2.20	12.50	30.00	47.50	
	40	10.70	27.50	47.50	67.50	
	45	23.60	42.50	65.00	87.50	
Cotton	Lbs.	0.52	0.60	0.65	0.75	
	550	-14.98	29.46	56.96	111.96	
	600	10.98	59.46	89.46	149.46	
	650	36.94	89.46	121.96	186.96	
	700	62.90	119.46	154.46	224.46	
Rice	Cwt.	6.50	7.50	8.50	9.50	
	50	-133.53	-83.53	-33.53	16.47	
	55	-101.03	-46.03	8.97	63.97	
	60	-68.53	-8.53	51.47	111.47	
	65	-36.03	28.97	93.97	158.97	
Sorghum	Bu.	1.84	2.10	2.30	2.50	
	55	-8.57	5.73	16.73	27.73	
	60	0.63	16.23	28.23	40.23	
	65	9.83	26.73	39.73	52.73	
	70	19.03	37.23	51.23	65.23	
Barley	Bu.	1.58	1.80	2.00	2.20	
	40	-47.17	-38.37	-30.37	-22.37	
	50	-31.37	-20.37	-10.37	-0.37	
	60	-15.57	-2.37	9.63	21.63	
	70	0.23	15.63	29.63	43.63	

Table 4--Production cost forecasts for major U.S. field crops, 1998-99 1/

Item	Corn		Soybeans		Wheat		Cotton		Rice		Sorghum		Barley	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
	Dollars per planted acre													
Cash expenses:														
Seed	29.09	28.92	19.92	19.80	9.14	9.08	16.20	16.10	24.47	24.32	6.66	6.62	9.08	9.02
Fertilizer	45.38	45.79	7.92	7.99	19.43	19.60	42.80	43.18	51.47	51.93	17.24	17.40	20.31	20.49
Chemicals	27.95	27.80	29.35	29.19	6.57	6.54	59.56	59.25	71.07	70.69	12.18	12.12	10.20	10.15
Custom operations 2/	11.22	11.51	5.86	6.01	6.28	6.45	20.49	21.03	45.47	46.66	5.58	5.73	4.67	4.79
Fuel, lube, and electricity	21.77	22.40	5.63	5.79	9.05	9.31	31.25	32.16	60.43	62.18	16.39	16.86	11.83	12.17
Repairs	19.75	19.74	10.83	10.82	13.69	13.69	30.84	30.82	29.53	29.51	18.08	18.07	15.30	15.29
Hired labor	3.02	3.04	1.39	1.40	5.04	5.06	44.32	44.51	38.32	38.49	5.73	5.75	5.67	5.69
Cotton ginning or rice drying	n/a	n/a	n/a	n/a	n/a	n/a	48.28	55.72	25.39	27.51	n/a	n/a	n/a	n/a
Other variable cash expense 3/	0.32	0.33	0.05	0.05	0.40	0.41	6.17	6.33	12.14	12.46	0.00	0.00	2.03	2.08
Total, variable cash expenses	158.50	159.52	80.94	81.05	69.60	70.14	299.91	309.09	358.29	363.75	81.86	82.54	79.08	79.69
General farm overhead	9.62	9.79	10.05	10.22	6.83	6.95	14.45	14.69	33.16	33.71	9.00	9.15	8.23	8.37
Taxes and insurance	22.99	23.49	21.67	22.13	11.07	11.31	22.05	22.52	31.61	32.29	8.95	9.14	13.86	14.16
Interest	16.08	16.69	14.93	15.55	9.99	10.37	19.06	19.92	27.44	28.77	8.59	8.94	12.28	12.75
Total, fixed cash expenses	48.70	49.96	46.65	47.90	27.89	28.63	55.57	57.14	92.21	94.78	26.54	27.23	34.38	35.29
Total, cash expenses	207.20	209.48	127.58	128.95	97.49	98.76	355.47	366.23	450.49	458.53	108.39	109.77	113.46	114.98
Economic (full ownership) costs:														
Variable cash expenses	158.50	159.52	80.94	81.05	69.60	70.14	299.91	309.09	358.29	363.75	81.86	82.54	79.08	79.69
General farm overhead	9.62	9.79	10.05	10.22	6.83	6.95	14.45	14.69	33.16	33.71	9.00	9.15	8.23	8.37
Taxes and insurance	22.99	23.49	21.67	22.13	11.07	11.31	22.05	22.52	31.61	32.29	8.95	9.14	13.86	14.16
Capital replacement	50.92	50.90	35.23	35.21	25.59	25.57	59.11	59.07	61.01	60.98	33.22	33.20	31.25	31.23
Operating capital	3.99	4.13	2.04	2.10	1.73	1.79	7.54	8.00	9.02	9.43	2.06	2.14	1.99	2.07
Other nonland capital	13.50	13.45	9.97	9.94	12.74	12.69	18.03	17.96	21.83	21.75	14.27	14.22	17.07	17.01
Land	67.04	67.93	65.31	65.74	36.41	35.90	47.76	50.55	122.30	129.11	18.65	19.22	35.20	35.14
Unpaid labor	16.24	16.31	5.65	5.67	10.11	10.16	31.28	31.42	28.76	28.89	10.47	10.52	7.50	7.53
Total, economic costs	342.81	345.51	230.85	232.06	174.07	174.50	500.12	513.31	665.97	679.91	178.48	180.12	194.19	195.20

n/a = not applicable. 1/ Forecasts are as of 11/13/98 and exclude direct effects of government programs.

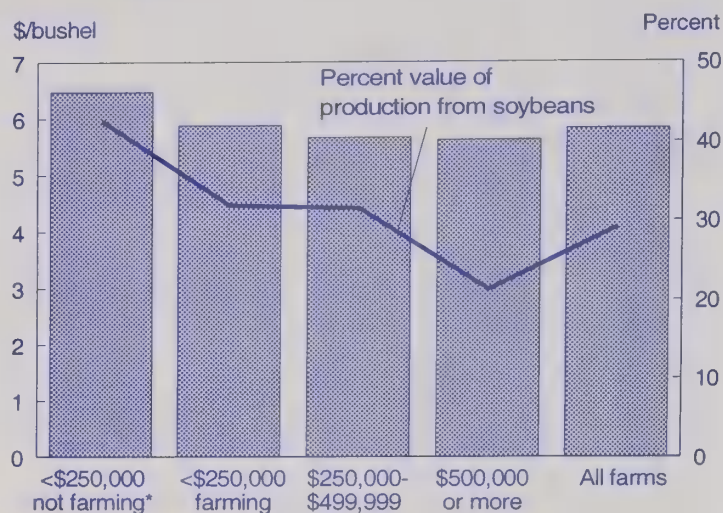
2/ Costs of custom operations, technical services, and commercial drying. 3/ Cost of purchased water and baling.

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Commodity Cost of Production/Farm Size Relationships

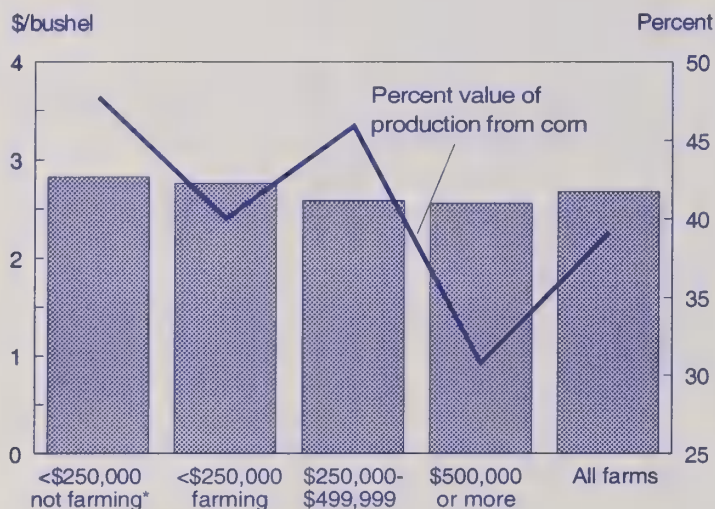
- Corn contributes an average 40 percent to the total value of production. Soybeans contribute an average 30 percent, while wheat contributes less than 14 percent.
- Wheat and soybeans contribute a smaller share of total value of production as farms get larger.
- Costs for all factors of production decline as farm size increases. This is especially true for soybean and corn growers.
- Pressures to expand the wheat enterprise remain in order to capture existing economies of size using current technology.

Figure 26
Soybeans



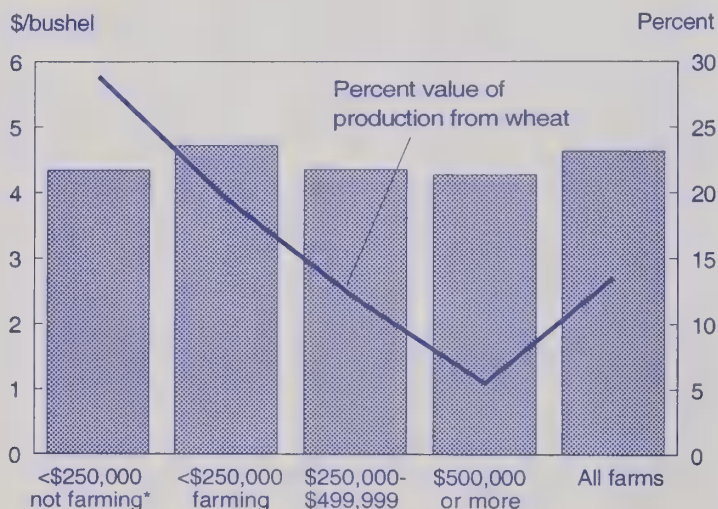
*Primary occupation not farming.
Source: Agricultural Resource Management Study,
Economic Research Service, USDA.

Figure 25
Corn



*Primary occupation not farming.
Source: Agricultural Resource Management Study,
Economic Research Service, USDA.

Figure 27
Wheat



*Primary occupation not farming.
Source: Agricultural Resource Management Study,
Economic Research Service, USDA.

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Appendix table 1--Value added to the U.S. economy by the agricultural sector via the production of goods and services, 1995-99F 1/

United States					
Item	1995	1996	1997	1998P	1999F
	\$ billion				
Final crop output	95.8	115.6	112.5	104.6	102.2
Food grains	10.4	10.7	10.6	8.8	8.3
Feed crops	24.6	27.3	27.6	23.8	21.9
Cotton	6.9	7.0	6.5	5.6	6.1
Oil crops	15.5	16.4	19.9	17.6	16.3
Tobacco	2.5	2.8	2.9	2.9	2.6
Fruits and tree nuts	11.1	11.9	12.8	13.1	13.6
Vegetables	14.9	14.6	15.1	16.0	16.0
All other crops	15.2	15.9	16.7	16.8	17.2
Home consumption	0.1	0.1	0.1	0.1	0.1
Value of inventory adjustment 2/	-5.4	8.9	0.3	-0.1	0.2
Final animal output	87.6	92.2	96.2	92.9	95.2
Meat animals	44.8	44.4	49.9	43.1	47.7
Dairy products	19.9	22.8	21.0	23.9	22.5
Poultry and eggs	19.1	22.3	22.2	22.8	22.4
Miscellaneous livestock	3.2	3.4	3.5	3.5	3.5
Home consumption	0.4	0.3	0.4	0.4	0.4
Value of inventory adjustment 2/	0.2	-1.1	-0.7	-0.9	-1.2
Services and forestry	19.4	20.7	22.1	22.6	23.0
Machine hire and customwork	1.9	2.2	2.6	2.5	2.6
Forest products sold	2.9	2.8	2.8	2.9	3.1
Other farm income	5.2	5.9	6.3	6.3	5.9
Gross imputed rental value of farm dwellings	9.3	9.8	10.3	10.9	11.4
Final agricultural sector output	202.8	228.5	230.8	220.1	220.4
less: Intermediate consumption outlays	109.0	112.9	118.6	113.6	114.2
Farm origin	41.6	42.7	45.7	43.2	43.6
Feed purchased	23.8	25.2	25.2	23.8	23.9
Livestock and poultry purchased	12.3	11.2	13.8	12.6	12.9
Seed purchased	5.5	6.2	6.7	6.8	6.9
Manufactured inputs	26.2	28.6	29.0	27.8	28.4
Fertilizers and lime	10.0	10.9	10.9	10.5	10.6
Pesticides	7.7	8.5	8.8	8.9	9.1
Petroleum fuel and oils	5.4	6.0	6.2	5.6	5.9
Electricity	3.0	3.2	3.0	2.7	2.8
Other intermediate expenses	41.2	41.5	43.9	42.7	42.2
Repair and maintenance of capital items	9.5	10.3	10.4	10.2	10.2
Machine hire and customwork	4.8	4.7	4.8	4.6	4.5
Marketing, storage, and transportation	7.2	6.9	7.1	6.9	7.0
Contract labor	2.0	2.1	2.6	2.7	2.7
Miscellaneous expenses	17.8	17.5	19.0	18.2	17.7
plus: Net government transactions	0.1	0.1	0.1	5.5	2.6
+ Direct Government payments	7.3	7.3	7.5	12.9	10.2
- Vehicle registration and licensing fees	0.5	0.4	0.5	0.5	0.5
- Property taxes	6.7	6.8	7.0	7.0	7.1
Gross value added	93.9	115.7	112.3	112.0	108.8
less: Capital consumption	19.1	19.4	19.5	19.6	19.9
Net value added	74.8	96.3	92.8	92.3	88.9
less: Factor payments	38.8	42.9	42.9	44.4	44.4
Employee compensation (total hired labor)	14.3	15.4	16.0	16.9	17.3
Net rent received by nonoperator landlords	11.8	14.3	13.2	13.4	13.4
Real estate and nonreal estate interest	12.7	13.2	13.7	14.1	13.7
Net farm income	36.0	53.4	49.8	48.0	44.6

P = preliminary. F = forecast.

1/Final sector output is the gross value of the commodities and services produced within a year. Net value-added is the sector's contribution to the National economy and is the sum of the income from production earned by all factors-of- production. Net farm income is the farm operators' share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development.

2/A positive value of inventory change represents current-year production not sold by December 1. A negative value is an offset to production from prior years included in current-year sales.

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Appendix table 2--Income statement for U.S farm sector, 1995-99F

	1995	1996	1997	1998P	1999F
	\$ billion				
Cash income statement:					
1. Cash receipts	188.1	199.6	208.7	198.0	198.0
Crops 1/	101.1	106.6	112.1	104.7	102.0
Livestock	87.0	93.0	96.6	93.4	96.0
2. Direct Government payments	7.3	7.3	7.5	12.9	10.2
3. Farm-related income 2/	10.1	10.9	11.8	11.8	11.6
4. Gross cash income (1+2+3)	205.5	217.8	228.0	222.7	219.8
5. Cash expenses 3/,4/	153.6	161.4	167.2	163.6	164.3
6. NET CASH INCOME (4-5)	51.8	56.4	60.8	59.1	55.5
Farm income statement:					
7. Gross cash income (1+2+3)	205.5	217.8	228.0	222.7	219.8
8. Nonmoney income 5/	9.8	10.2	10.7	11.3	11.9
9. Inventory adjustment	-5.1	7.8	-0.4	-1.0	-1.0
10. Total gross income (7+8+9)	210.1	235.8	238.3	233.1	230.6
11. Total expenses	174.1	182.4	188.4	185.1	186.1
12. NET FARM INCOME (10-11)	36.0	53.4	49.8	48.0	44.6

P = preliminary. F = forecast. Totals may not add due to rounding.

1/ Includes CCC loans. 2/ Income from custom work, machine hire, recreational activities, forest product sales, and other farm sources.

3/ Excludes depreciation and perquisites to hired labor. 4/ Excludes farm households. 5/ Value of home consumption of farm products plus the imputed rental value of operator dwellings.

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Appendix table 3--Deriving farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology, 1994-99 1/

	1994	1995	1996	1997P	1998F	1999F
Dollars per farm						
Net cash farm business income 2/	11,389	11,218	13,502	12,460	n.a.	n.a.
Less depreciation 3/	6,466	6,795	6,906	6,578	n.a.	n.a.
Less wages paid to operator 4/	425	522	531	513	n.a.	n.a.
Less farmland rental income 5/	701	769	672	568	n.a.	n.a.
Less adjusted farm business income due to other household(s) 6/	815	649	1,094	*1,429	n.a.	n.a.
Dollars per farm operator household						
Equals adjusted farm business income	2,981	2,484	4,300	3,373	n.a.	n.a.
Plus wages paid to operator	425	522	531	513	n.a.	n.a.
Plus net income from farmland rental 7/	n.a.	1,053	1,178	945	n.a.	n.a.
Equals farm self-employment income	3,407	4,059	6,009	4,831	n.a.	n.a.
Plus other farm-related earnings 8/	970	661	1,898	1,158	n.a.	n.a.
Equals earnings of the operator household from farming activities	4,376	4,720	7,906	5,989	5,757	4,917
Plus earnings of the operator household from off-farm sources 9/	38,092	39,671	42,455	46,358	45,060	46,651
Equals average farm operator household income comparable to U.S. average household income, as measured by the CPS	42,469	44,392	50,361	52,347	50,816	51,568
Dollars per U.S. household						
U.S. average household income 10/	43,133	44,938	47,123	49,692	n.a.	n.a.
Percent						
Average farm operator household income as percent of U.S. average household income	98.5	98.8	106.9	105.3	n.a.	n.a.
Average operator household earnings from farming activities as percent of average operator household income	10.3	10.6	15.7	11.4	n.a.	n.a.

P = Preliminary. F = forecast. n.a. = not available. * = The relative standard error exceeds 25 percent, but is no more than 50 percent.

1/ This table derives farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Census Bureau, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income.

2/ A component of farm sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives and farms run by a hired manager. Includes the income of farms organized as proprietorships, partnerships, and family corporations.

3/ Consistent with the CPS definition of self-employment income, reported depreciation expenses are subtracted from net cash income. The ARMS collects farm business depreciation used for tax purposes.

4/ Wages paid to the operator are subtracted here because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income.

5/ Gross rental income is subtracted here because net rental income from the farm operation is added below to income received by the household.

6/ More than one household may have a claim on the income of a farm business. On average, 1.1 households share the income of a farm business.

7/ Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business. In 1993 and 1994, net rental income was collected as part of off-farm income.

8/ Wages paid to other operator household members by the farm business and net income from a farm business other than the one being surveyed. In 1996, also includes the value of commodities provided to household members for farm work.

9/ Wages, salaries, net income from nonfarm businesses, interest, dividends, transfer payments, etc. In 1993 and 1994, also includes net rental income from farmland.

10/ From the CPS.

Sources: U.S. Dept. of Agriculture, Economic Research Service, 1993, 1994, and 1995 Farm Costs and Returns Survey (FCRS), and 1996 and 1997 Agricultural Resource Management Study (ARMS) for farm operator household data.

U.S. Dept. of Commerce, Bureau of the Census, Current Population Survey (CPS), for U.S. average household income.

For information on household income contact: Bob Hoppe (202) 694-5572. Email rhoeppe@econ.ag.gov.

Appendix table 4--U.S. farm sector cash receipts from sales of agricultural commodities, 1995-99F

	1995	1996	1997	1998P	1999F
	\$ billion				
Crop receipts:					
Food grains	10.4	10.7	10.6	8.8	8.3
Wheat	9.1	9.2	8.9	7.0	6.6
Rice	1.3	1.6	1.7	1.8	1.7
Feed crops	24.6	27.3	27.6	23.8	21.9
Corn	19.0	20.7	20.5	17.7	16.3
Barley, oats, and sorghum	2.3	2.6	2.5	1.9	1.7
Hay	3.3	3.9	4.6	4.2	3.9
Oil crops	15.5	16.4	19.9	17.6	16.3
Soybeans	13.9	14.8	18.3	15.8	14.5
Peanuts	1.0	1.0	0.9	1.1	1.1
Cotton (lint and seed)	6.9	7.0	6.5	5.6	6.1
Tobacco	2.5	2.8	2.9	2.9	2.6
Fruits and nuts	11.1	11.9	12.8	13.1	13.6
Vegetables	14.9	14.6	15.1	16.0	16.0
Greenhouse and nursery	10.5	10.9	11.4	11.8	12.2
All other crops	4.7	5.0	5.3	5.0	5.0
	0.0	0.0	0.0	0.0	0.0
TOTAL CROPS	101.1	106.6	112.1	104.7	102.0
Livestock receipts:					
Red meats	44.8	44.4	49.9	43.1	47.7
Cattle and calves	34.0	31.1	36.1	33.9	37.9
Hogs	10.3	12.7	13.2	8.7	9.3
Sheep and lambs	0.6	0.6	0.6	0.5	0.5
Poultry and eggs	19.1	22.3	22.2	22.8	22.4
Broilers	11.8	13.9	14.2	15.3	14.9
Turkeys	2.8	3.1	2.9	2.6	2.6
Eggs	3.9	4.8	4.5	4.4	4.3
All dairy	19.9	22.8	21.0	23.9	22.5
Miscellaneous livestock	3.2	3.4	3.5	3.5	3.5
TOTAL LIVESTOCK	87.0	93.0	96.6	93.4	96.0
TOTAL RECEIPTS	188.1	199.6	208.7	198.0	198.0

P = preliminary. F = forecast.

Information contact: Roger Strickland, e-mail: rogers@econ.ag.gov

Appendix table 5--Farm income for selected types of farms, 1997-99F 1/

Item	Cash grain 2/	Cotton	Total crops	Cattle	Hogs	Dairy	Total livestock
				\$ billion			
Gross cash income							
1997	58.7	6.1	125.9	34.5	11.8	23.8	102.1
1998P	52.6	6.1	121.0	33.4	8.6	27.3	101.7
1999F	48.7	6.2	117.1	35.9	9.0	25.9	102.7
Crop receipts							
1997	46.5	5.2	106.8	2.3	1.0	0.9	5.3
1998P	39.1	4.9	98.9	2.4	1.1	1.0	5.8
1999F	36.3	5.2	96.6	2.3	1.0	1.0	5.4
Livestock receipts							
1997	6.0	0.1	7.8	28.1	10.3	22.1	88.7
1998P	4.4	0.1	6.6	26.6	6.9	25.0	86.8
1999F	4.8	0.1	7.2	29.6	7.4	23.9	88.8
Direct Government payments							
1997	4.2	0.4	6.1	0.8	0.1	0.3	1.4
1998P	7.0	0.6	10.4	1.4	0.3	0.5	2.5
1999F	5.5	0.5	8.2	1.1	0.2	0.4	2.0
Cash expenses							
1997	42.7	5.2	96.3	26.3	6.6	21.2	70.9
1998P	41.0	5.2	91.3	26.7	6.8	21.3	72.2
1999F	41.1	5.2	91.7	26.8	6.9	21.3	72.5
Net cash income							
1997	16.0	0.9	29.6	8.2	5.2	2.6	31.2
1998P	11.6	0.9	29.7	6.7	1.8	6.0	29.5
1999F	7.5	1.0	25.3	9.1	2.1	4.6	30.1

P=preliminary. F = forecast. Numbers are rounded.

1/ Farm types are defined as those with 50 percent of more of the value of production accounted for by a specific commodity or commodity group.

2/ Includes farms earning at least half of their receipts from a combination of wheat, rice, corn, oats, barley, sorghum, soybeans, dry beans, and/or flax.

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Appendix table 6--Farm business balance sheet, 1993-99F

	1993	1994	1995	1996	1997	1998P	1999F
				\$ billion			
Farm assets	906.4	938.3	981.9	1,033.9	1,088.8	1,124.7	1,140.3
Real estate	673.7	706.9	755.7	799.5	849.2	891.7	904.1
Livestock and poultry	72.8	67.9	57.8	60.3	66.8	57.0	59.0
Machinery and equipment	86.5	87.5	88.5	88.9	88.1	91.0	90.0
Crops stored	23.3	23.3	27.4	31.7	29.9	30.0	31.0
Purchased inputs	3.8	5.0	3.4	4.4	5.1	5.0	5.2
Financial assets	46.3	47.6	49.1	49.1	49.7	50.0	51.0
Farm debt	142.0	146.8	150.8	156.1	165.4	170.4	169.1
Real estate	76.0	77.7	79.3	81.7	85.4	87.6	86.7
Nonreal estate	65.9	69.1	71.5	74.4	80.1	82.8	82.4
Farm equity	764.4	791.5	831.1	877.8	923.4	954.3	971.2
				Percent			
Ratios:							
Debt to equity	18.6	18.5	18.1	17.8	17.9	17.9	17.4
Debt to assets	15.7	15.6	15.4	15.1	15.2	15.2	14.8

P=preliminary. F=forecast.

Information contacts: For assets -- Ken Erickson, (202) 694-5565, e-mail: erickson@econ.ag.gov

For debt -- Jim Ryan, (202) 694-5586, e-mail: jimryan@econ.ag.gov

Appendix table 7--Farm sector rates of return, 1993-99F

	1993	1994	1995	1996	1997	1998P	1999F
	Percent						
Rate of return on assets	3.0	3.6	2.1	3.9	3.1	3.7	3.3
Real capital gains on assets	1.9	1.6	3.2	3.1	3.3	1.2	-0.3
Total real return on assets	4.9	5.2	5.3	7.0	6.4	4.9	2.9
Average interest rate paid on debt	7.5	7.9	8.3	8.3	8.2	8.0	7.8
Real capital gains on debt	2.6	2.3	2.2	1.8	1.8	1.5	1.8
Real cost of debt	4.9	5.6	6.0	6.5	6.4	6.5	6.0
Rate of return on equity	2.1	2.8	0.9	3.1	2.2	2.9	2.4
Real capital gains on equity	2.8	2.3	4.2	4.0	4.3	1.6	2.6
Total real return on equity	4.9	5.1	5.1	7.1	6.4	4.4	5.0
Real net return on assets financed by debt	-0.02	-0.39	-0.78	0.48	-0.04	-1.60	-3.10

P=preliminary. F=forecast.

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Appendix table 8--Farm financial measures, 1993-99F

	1993	1994	1995	1996	1997	1998P	1999F
	Ratio						
Liquidity ratios:							
Farm business debt service coverage	2.56	2.17	2.13	2.22	2.27	3.03	2.07
Debt servicing	0.14	0.14	0.15	0.14	0.14	0.09	0.15
Times interest earned ratio	5.60	5.66	4.35	5.55	5.15	4.90	4.77
	Percent						
Solvency ratios:							
Debt/equity	18.60	18.50	18.10	17.80	17.90	17.80	17.40
Debt/asset	15.70	15.60	15.40	15.10	15.20	15.10	14.80
Profitability ratios:							
Return on equity	2.10	2.80	0.90	3.10	2.20	2.90	2.40
Return on assets	3.00	3.60	2.10	3.90	3.10	3.70	3.30
Financial efficiency ratios:							
Gross ratio	70.60	74.40	74.00	74.10	73.30	75.80	74.70
Interest to gross cash farm income	5.20	5.70	6.10	5.90	5.80	6.10	6.00
Asset turnover	22.50	21.50	21.40	21.60	21.50	20.10	19.40
Debt burden ratio [net cash income plus interest]/farm debt]	49.40	43.00	43.10	45.10	46.00	43.20	40.50

P=preliminary. F=forecast.

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